This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`

No.

BOSTON
MEDICAL LIBRARY,
19 BOYLSTON PLACE.

TRANSACTIONS

OF THE

BRITISH LARYNGOLOGICAL AND RHINOLOGICAL ASSOCIATION

DURING THE YEAR 1893.

VOLUME III.

LONDON:
F. J. REBMAN, 11, ADAM STREET, STRAND.

1894.

BOSTON MEDICAL
FEB 1897
LIBRARY.

LONDON:
PRINTED BY WITHERBY AND CO.,
326, HIGH HOLBORN, W.C.

CATALOGUED
FEB 1896
E. H. B.

FORMER PRESIDENTS.

SIR MORELL MACKENZIE	1888
SIR PHILIP C. SMYLY	1889
HUNTER MACKENZIE	1890
LENNOX BROWNE	1891
A. SANDFORD	1892
J. MACINTYRE	1893

OFFICERS, 1892-3.

President.

DR. A. SANDFORD *(Cork)*.

Vice-Presidents.

England ..... DR. GEO. STOKER.
Scotland ..... ,, J. W. DOWNIE.
Ireland ..... ,, J. HILLIS.

Committee.

Metropolitan—MR. LENNOX BROWNE *(Ex-President)*.
DR. DUNDAS GRANT.
MR. GIBSON BERKLEY.
DR. LAW.
DR. COALL.

Extra-Metropolitan—DR. WARD COUSINS.
MR. ALGERNON HODSON.

Hon. Secretary.

MR. WYATT WINGRAVE.

ANNUAL REPORT OF COUNCIL.

THE Council, in presenting the Third Volume of the Transactions, congratulates the Fellows upon the continued prosperity of the Association.

Eighty-five names appear on the Roll of Fellows, showing an increase of nine upon the number in last year's report.

The contributions show the same desire upon the part of the authors to maintain a high standard of excellence, and these with the important discussions held during the year, fully justify the aim and existence of the Association.

The balance sheet is again most satisfactory.

Signed on behalf of the Council,

JOHN MACINTYRE,

President.

BOSTON MEDICAL
FEB 19 1897
LIBRARY.

THE BRITISH LARYNGOLOGICAL AND RHINOLOGICAL ASSOCIATION.

MEETING HELD FRIDAY, MARCH 10th, 1893.

Dr. SANDFORD, President, in the Chair.

After the transaction of formal business—

Mr. LENNOX BROWNE read the notes of a *Case of Lupus of the Palate, Tongue, Larynx and Nose.* (Reported by Dr. Holloway, Registrar.)

The patient, unmarried, aged twenty-four, was admitted into the Central London Throat, Nose and Ear Hospital, on the recommendation of Dr. Morison, of St. Albans, on October 31st, 1892, under the care of Mr. Lennox Browne.

Her history previous to the time she came under his care is briefly as follows: Born in Montagis of French parents, she resided there until five years of age, and after staying at Troyes for another year, she came to England, and lived at St. Albans until two years ago, when she removed to Bedford, and resided there up to the time of her admission to the hospital. Her occupation for the last few years has been a teacher of French. Her father is still living, and in good health at the age of sixty-three. Her mother died of phthisis seven years ago. One of her brothers died when twelve years old, and another when an infant, but the patient is unable to state the causes of their deaths. No history of any other member of her family being phthisical or suffering from lung disease can be elicited from the patient.

History of Present Illness.— Shortly after going to live at Bedford, two years ago, the patient found that her voice was failing; it became weak, wanting in tone, and husky. This symptom was followed by "a sore mouth," the roof being the first part affected. The tongue was the next, and its sore and tender condition was attributed (according to the patient) by the family doctor "to the English food."

A month or two later, the patient found that she had "sore places" on the inside of both cheeks, and still more recently, during last autumn, a sore spot appeared on the edge of the left ala of the nose; this was put down to the "cold wind" which prevailed at the time.

The patient was under medical observation for "more than a year," but during that time her mouth, throat, and interior of the nose had never been examined. She had a slight cough last winter, but without much expectoration or hæmoptysis. She states that her health was good up to this time, but that during the two months previous to her admission to the hospital, she had lost flesh, but not to any great extent. She has never had any fever, or serious illness, except "peritonitis" when about nine years of age.

Physical Examination on Admission.—Well developed and well nourished, somewhat pale and anæmic.

Heart sounds normal, pulse regular, 82, slight hæmic *bruit* heard over the pulmonary area.

Lungs: expansion, equal; percussion note good, resonant.

V.R. and V.F. equal on both sides. No abnormal sounds.

Voice: weak, husky, and harsh, at times high pitched.

Catamenia: regular, but rather profuse, lasting seven days and very painful, for the last two years.

The patient says "she always feels worse at these periods."

Senses of smell and taste not affected.

The Tongue: at the tip and sides for three-fourths of its length presents a rough, irregular, granular surface, studded with small dull-red nodules, soft to the touch, not very painful nor readily bleeding. The upper surface of the tongue is slightly furred in the centre. On the inner surface of both cheeks, extending from the alveolar ridge upwards and backwards, a similar, irregular and nodular appearance is seen, which can be traced to the anterior pillars of the fauces.

On the left side is a deep fissure, and the whole of the affected surface is clouded by a whitish deposit which partakes of an almost aphthous character. On the upper part of the hard palate at its junction with the soft palate, and to the right of the uvula, are two small oval patches of granular nodules, slightly raised above the normal mucous surface, and sometimes glazed with similar white deposit to that observed in the cheeks.

Just below the ala of the left nostril there is a brownish-red nodule, and on the inner surfaces of both alæ nasi the mucous membrane is infiltrated and nodular, of reddish colour, and in some places covered with greyish-brown crusts, which, when removed, show an ulceration and bleeding surface beneath.

Larynx: is not greatly congested, and, unlike a case of tuberculosis, there is free definition of the ary-epiglottic fold, and the cartilages of Santorini are distinct, but the outline of those of Wrisberg is almost lost, and is merged into a nodulated new growth which springs from and extends right across the posterior commissure. It is larger on the right side than the left, and is cleft in the centre. The vocal cords are slightly congested, but there is no ulceration.

The appetite is poor, but there is no evidence of gastric disturbance,

nor any irregularity in the action of the bowels. The cough is slight, the sputum almost *nil;* a small portion obtained on microscopical examination reveals no abnormal appearance, and most careful search fails to detect bacilli.

Urine: The average quantity passed daily is between 30 and 35 ozs., specific gravity 1·025 acid, no deposit, no albumen.

Treatment.—Cod liver oil was ordered, and the granulations were scraped at first twice a week, after which lactic acid was applied, the parts having been previously painted with a ten per cent. solution of cocaine.

On November 2nd Mr. Lennox Browne removed two small portions of granulation tissue from the larynx, which, on microscopical examination, were found to consist of ordinary granulation tissue, blood cells, small round white cells and epithelial cells. No bacilli or giant cell structure was demonstrated.

On November 4th the nodule below the left ala was also scraped with the curette, and its microscopical appearance was of a similar nature.

By November 14th the external ulceration on the nasal region had entirely healed, and the cicatrix was firm. Mr. Lennox Browne also noted that the laryngeal appearance was much improved. At this time it was noticed that the treatment of the nostrils by curetting and lactic acid was followed by a slight serous discharge from the right nostril.

The patient left the hospital for about ten days at the end of December, but returned for further treatment early in January, when, as no marked improvement was evident, she was, in spite of the negative evidence of specific disease, ordered to take small doses of mercury in the form of lozenges. (Troch. Antim. Co.) The results of this treatment not proving satisfactory, Mr. Lennox Browne ordered a daily injection of tuberculocidin (Klebs') which was commenced on March 3rd, one $\frac{1}{12}$th gr. being the initial dose.

On the morning the treatment was begun the lungs were carefully examined and found to be healthy, the urine was free from albumen or other abnormal substances, the temperature was normal, the pulse 82, and respirations 19 per minute.

Injections were given on the 4th, 5th and 6th. On the 7th March patient began to menstruate, so no injection was given. No effects have been noted as resulting from these injections. On the second day (the injection being given at 9.30 a.m.), the temperature rose to 99·2 at 4 p.m., but declined to normal in the evening.

On March 8th the patient stated that she felt much better, her appetite had improved, she had no pain or smarting in the mouth, or soreness of the tongue at night, as was the usual case. The granular surface on the tip of the tongue is certainly less marked, and the two patches of ulceration on the soft palate are smaller and less prominent; there does not appear, however, to be any visible alteration in the condition of the nose.

On March 9th Mr. Lennox Browne noted that the inside of the cheeks was less cloudy in colour and less nodular in appearance. The alteration in the condition of the nose is by no means so marked, while the state of the larynx remains *in statu quo.*

It is of course too early yet to speak of the effect of the tuberculocidin.

Remarks by Mr. LENNOX BROWNE.—The chief interest of the case is in the etiology. It appears to be a favourable one for testing the value of tuberculocidin, and I am hopeful that the remedy, aided by the curette and lactic acid, may lead to some permanent good effects. The patient declares herself to be free from pain in the affected parts since the treatment by injection was commenced.

Mr. GEORGE STOKER asked if a specific history had been obtained, and if iodide of potassium had been tried. He observed that the condition was highly suggestive of a specific origin, especially in view of the appearance of inter-arytenoid thickening. He advised the inunction of mercury.

Mr. LENNOX BROWNE said he had excluded the possibility of syphilis. He had exhibited iodide of sodium with negative results.

Dr. WHISTLER did not think that the inter-arytenoid thickening necessarily indicated a specific taint, seeing that it occurred in so many forms of chronic laryngitis. He asked whether search had been made for the bacillus.

Mr. LENNOX BROWNE said that an examination for bacilli had given negative results.

Dr. E. WOAKES remarked that inter-arytenoid thickening occurred in nearly all chronic laryngeal cases, and was not necessarily indicative of syphilis. He did not consider the case to be one of either chronic laryngitis, syphilis or tubercle. As it certainly was not one of malignant disease, and as lupus had occurred elsewhere on the patient, he thought it was very possibly of the nature of lupus.

Mr. STOKER said he had rarely seen cases of syphilitic laryngitis without this inter-arytenoid thickening, and he had come to regard that condition as characteristic of syphilis.

Dr. DUNDAS GRANT pointed out that the progress of the case was strongly suggestive of its being lupus.

Dr. MCNEILL WHISTLER exhibited a *Case of Laryngeal Stenosis in a boy of fourteen.*

The history was to the effect that five years ago tracheotomy was performed for obstruction by a foreign body, which, fourteen days after, proved to be a cherry-stone. Complete restoration of voice and breathing space had never been obtained, although many dilating measures were from time to time employed. The laryngoscope revealed a tight cicatricial ring below the glottic level, and entire disorganization of the larynx proper. Two large symmetrical elevations occupied the position of the ventricular bands. The boy was wearing a soft rubber tube, and Dr. Whistler did not suggest any further operative interference, for, notwithstanding the restricted lumen of his glottis, his lungs were well expanded.

Mr. LENNOX BROWNE observed that, in the absence of congenital defect, it was extraordinary that so much irritation should have resulted from so slight a cause. He suggested that the nasal obstruction might perhaps account for the unusual amount of irritation, and hinted that

it would perhaps be well to give the lad a chance of breathing through the nose, by clearing the vault of the pharynx of his enlarged pharyngeal tonsil.

Two notes on Reflexes.

Dr. WOAKES said it might be of some service if he placed on record two practical experiences which conveyed certain absolute clinical facts. The first case was one of "nasal cough." The patient was a young married lady who had been under treatment two or three years previously for nasal trouble, following recovery from a long and tedious illness. She subsequently married and enjoyed good health until, in the spring of last year, she fell a victim to influenza. Then she began to experience a return of her old nasal trouble associated with a good deal of constitutional disturbance. The most prominent symptom was a constant and very harassing cough which gave her no rest, and was most irritating not only to herself but to those about her. On examining the nose he saw a fungating mass springing from the outer nasal wall in the ethmoidal region. In appearance it neither resembled polypoid tissue nor granular tissue, but it was compressible and of a light texture. He regretted he had not secured a piece of the growth for microscopical examination. The growth extended across the nasal meatus, which was capacious, and came into gentle contact with the septum. There, with every respiration it moved to and fro, so that the result was a constant tickling. With an electrode he pressed the growth back against the wall from which it grew, upon which it shrivelled up. As he did this the cough ceased and has not returned ; that is to say, in so far as the peculiar irritative cough was concerned, though, of course, the patient from time to time suffers like most other people from passing bronchial irritation. It is, therefore, possible to get a cough directly dependent upon changes in the nose. No one present probably had any doubt on this point, but the connection in this instance was so obvious and striking that it merited to be placed on record.

The next case was that of a gentleman who suffered from inveterate asthma. He came some years ago on account of a distressing tinnitus, but he observed at the time that the asthma from which he suffered was constitutional. He treated the deafness, which was due to a large ethmoidal swelling, and the patient recovered his hearing and lost the tinnitus. He saw him from time to time and he always showed symptoms of asthma. One day last summer he came once more. He was so very ill that he had to be supported into the consulting room owing to intense dyspnœa, and he said he had come as a last resort, so intense and so menacing were the symptoms. He was propped up in the chair, and on examining him he found that the middle spongy bone, which he had previously treated, had since undergone considerable enlargement, and that a spur was projecting against the septum, impressing itself upon it near the centre, just behind the junction of the osseous and cartilaginous parts. It occurred to him that the then condition might be due to some spasmodic condition in addition to his ordinary bronchial affection, and that the spasm might not improbably be dependent on the pressure of

this spur. With the patient's consent he removed the spur, thereby leaving a considerably enlarged breathing space. While doing this he noticed that the patient straightened himself in the chair, and at the same time there was a well-marked improvement in the breathing. Soon after he began to talk and had apparently forgotten all about his distress, the breathing being comparatively comfortable. This was not an imaginary relief, but a positive and permanent one, so far as the recent aggravation of his symptoms was concerned. Apart altogether from the question of the occasional origin of asthma in disease of the nose, this case shows that exacerbations of dyspnœa may originate in this organ, and that relief can be procured by treatment of the local condition.

Dr. DUNDAS GRANT, after welcoming Dr. Woakes back among them, observed that these were, beyond all question, cases in which it was possible to say that the relief was not due to counter-irritation applied to a very sensitive area. It was very difficult to produce exactly parallel cases. He referred to a very curious case of asthmatic attacks in which a man, a wholesale cheesemonger, found that he became absolutely incapable of following his avocation in consequence of dyspnœa, which invariably came on after he had been visiting the cellars in which the cheeses were ripening. The application of a cocaine solution to his turbinated bodies, which were much swollen, gave an extraordinary amount of relief, and this tided him over from September until the following Christmas. The following year, on his coming back again at the commencement of the Stilton season, he diagnosed the presence of a spur and decided to remove it. Before the slight wound thus inflicted had completely healed, he, the patient, was back again among his cheeses, and the irritation returned more severely than ever. Moreover, the application of cocaine no longer afforded the same relief. Another year passed, another ripening season came round, and at Christmas the patient came to see him, saying that he was no longer the same man. It turned out that he had on his own account reverted to the constant use of the menthol and eucalyptus spray, which he had been ordered in the first instance. This patient was one of the most pitiable cases of asthma he had ever seen. It was certainly curious that, in the author's cases, treatment directed to the one should have so promptly determined the subsidence of the symptoms.

Mr. LENNOX BROWNE said that the author's cases were excellent instances of the relief to be afforded by attacking the source of direct irritation, and were not, therefore, open to the general criticism of the uninitiated that the majority of cases of reflex neuroses resulted from the counter-irritation effected by intra-nasal measures, and it was important in this sense to record all cases of cure of reflex neuroses by removal of any actual intra-nasal cause. He preferred to believe that in the case related by Dr. Grant the patient's sufferings were alleviated by the use of cocaine and menthol, but were cured by the removal of the spur.

Mr. LENNOX BROWNE also related the case of a medical man who came to him from Nottingham. He was sixty-five years of age, and complained of asthma ever since he had been garrotted outside the Midland Hotel. He had been treated by two medical men. As a matter of course

he examined the larynx to see if there were any marks of injury or fracture, but nothing of the kind was found. The patient was about to leave the room when it occurred to him to examine the nose as a mere matter of routine. Though the patient denied having any nasal trouble, he found the nose blocked with polypi, and the patient then admitted having suffered from asthma for many years previously to the date he had given. On removal of the polypi his condition was materially improved.

Dr. SANDFORD.—CASE I. *Case of Papilloma. Pathological Specimen from Inferior Turbinal.*

A discussion which took place at our last meeting with regard to the possible conversion of benign growths into malignant ones, when exposed to rough-manipulative treatment or other cause of irritation, suggested to me that the following pathological specimen may not be altogether devoid of interest.

The case was one of a woman, forty-one years of age, who consulted me with regard to complete obstruction of both nasal passages, and frequent hæmorrhage of an alarming character from the right nostril. The former condition had existed for three or four years, and of late she had noticed a growth protruding from the right nostril. On the right side I found a large papillomatous mass in connection with the inferior turbinated bone, and completely blocking the passage. On the left side was considerable hypertrophy of the mucous membrane covering the inferior turbinal, the surface of which was, however, quite smooth, thus differing from the villous appearance presented on the right side above. The left nostril was plugged by mucous polypi, growing from the middle turbinal. By the removal of these the patency of the nostril was restored. On the right side I encircled the growth with a cold snare, and a violent jerk by the patient enabled me to remove the growth more rapidly and completely than I had anticipated, bringing with it the greater portion of the inferior turbinal. This is shown in the specimen before you, which has shrunk to half its original size, and a section of which may be seen under the microscope.

In this section is seen an enormous increase in the cellular and vascular elements of the structure. The small cells are very numerous in parts, and appear to me to exhibit here and there the appearance of extreme activity, streaming apparently from certain foci towards the free surface. I therefore would suggest that this specimen exhibits a condition of *potential* though *latent* malignancy, although at present there is no evidence of the latter.

It is easy to imagine an increase of this cellular element and cellular activity under the influence of unwonted irritation, until the increased proportion of active cellular elements might constitute a condition beyond the shadowy line which separates so-called benign from malignant growths. I bring forward this specimen, subject to the opinion of skilled pathologists—of whom I am not—in the hope that they may find something worthy of their criticism in the case.

The practical lesson which I derive from my theory is that it supplies a further argument in favour of neat-surgery and gentle manipulation in

the removal of nasal growths. I have no doubt that groping about with a forceps for an unseen object has frequently been a source of serious subsequent trouble.

Mr. WINGRAVE said the case was one of particular interest to him, because it bore upon a question which he proposed to deal with later on. It was simply an enlargement of the posterior part of the turbinated body, the enlargement bearing principally upon the vascular tissue. The elevations, like papillæ, were venous sinuses covered over with epithelium, and forming crypts. He had under his observation a case almost similar. He was not surprised to find there was a large amount of bleeding, because the growth consisted of venous sinuses having undergone enormous dilatation, and their walls sharing the mucoid degeneration, they had thus no power of recoil. Such growths ought properly to be called angiomata, or varices, for their structure was that of a true varix.

Dr. WOAKES remembered a similar case also affecting the ala of the right nostril and extending round to the septum, as well as the anterior border of the inferior turbinated body. Altogether the growth caused almost complete stenosis of the nostril. He employed the galvano-cautery cautiously so as not to produce adhesions, and after a few applications the disease disappeared. He had hoped that this was the end of it, but in the course of six months the patient returned in almost the same condition as before. He proposed a repetition of the treatment, since which the patient had not returned.

Dr. WOAKES did not think that description would apply to his case.

Mr. WINGRAVE said the condition he had described was almost entirely confined to the posterior part of the turbinal body.

Dr. WOAKES said that in his case it was confined to the anterior fifth of the turbinated bone and the inner part of the alæ.

CASE II. *Case of Fracture of the Thyroid Cartilage by direct violence.*

This injury is of such rare occurrence, owing to the extreme mobility of the parts and the absence of any point of resistance except the spinal column, that I am anxious to place the following case on record.

J. C., a farmer, fifty-three years of age, consulted me for some nasal trouble. I was immediately struck by his very peculiar voice, which was a loud, toneless whisper, and the sound of which gave me a disagreeable sensation in my larynx. Upon inquiry the patient stated that his voice had been so—"a little hoarse," he described it—since he was about sixteen years of age, when he had received a blow from the point of a cow's horn, which knocked him down. He had lost his voice immediately, and had suffered a good deal of pain in his throat for a considerable time, but eventually recovered partially, and had remained in his present condition ever since.

Upon examination with the laryngoscope the following conditions were observed : A large, irregular ridge, its long axis antero-posteriorly projected into the larynx from the left side, reaching nearly to the median line ; along its crest was stretched an attenuated fibrous band, evidently

representing an atrophied vocal cord. On phonation the right cord advanced to the left of the median line, reaching almost to the crest of the opposing ridge, which thus acted as an immovable vocal cord, and the result was a very extraordinary sound indeed. There was a slight movement of the mucous membrane indicating the position of the left arytenoid, and the right cord and surrounding structures appeared to be considerably hypertrophied. Externally, a deep depression in the left wing of the thyroid cartilage corresponded with the internal protrusion, and marked the part struck by the point of the cow's horn.

Dr. DUNDAS GRANT and Mr. WYATT WINGRAVE.—*Case of Pharyngo-Mycosis.*

The patient came recently to Dr. Grant's clinique complaining of comparatively slight sore throat of some three months' duration. On inspection the tonsils and base of the tongue were seen to be beset with white dots corresponding to the lacunæ normally found in these regions. These dots were rounded, and somewhat acuminate, and though they looked as if they could be easily brushed away, or pulled, were found to have the adherent and tenacious nature characteristic of pharyngo-mycosis. There was no surrounding inflammatory areola. Judging by cases in which the presence of the disease was only incidentally discovered on examination of the throat for other (or no particular) reasons, we believe that the disease exists for a long time without causing symptoms, and in the present case it most probably dated from a period long anterior to its discovery by the patient. The treatment now universally approved is the introduction of the galvano-caustic wire into each point. When an enlarged tonsil is the seat of the trouble the removal of that structure is advisable. Mr. Wingrave carried out this plan of treatment in the present instance, and a complete cure is anticipated.

Microscopic preparations were shown.

Mr. LENNOX BROWNE suggested that an examination should be made of all cases of lacunar tonsillitis in respect of the leptothrix. This would very possibly show its existence to be even more common than was supposed.

Mr. WINGRAVE said he had done this for many years past. Pharyngo-mycosis was essentially a disease in which the leptothrix stuck in clusters tenaciously to the epithelium, persistently growing after removal. It is worthy of remark that it prefers apparently healthy surfaces.

Dr. WILLIAM ROBERTSON (Newcastle).—*Account of a Case of Naso-Pharyngeal Growth.*

These specimens I removed from an old lady, aged sixty-five, who was sent to me by Dr. Elliott, of Bellingham, with a history of eight months' respiratory inconvenience in her nose and throat, which was not severe and only troubled her when lying down.

On examination the left nostril was seen to be completely occluded and distended, giving a frog-face appearance to that side. The tumour was movable, and had a pearly look. On depressing the tongue a tumour was seen behind the uvula, filling the space between it and the

oro-pharynx, having a hæmorrhagic appearance, but there was no history of bleeding. It measured antero-posteriorly about one inch, and appeared to the finger to be about one and a half inches long, and fixed by a broad base to the basis cranii.

Operation.—After applying cocaine, a thick ligature was passed through the visible part of the tumour, which on pulling exposed the mass almost to its origin. A galvano-caustic loop was then run round the growth, and carried up flush with the bone, which soon completely separated it from its attachment without any obvious bleeding. The nasal mass was then forcibly torn from its attachments by a cold wire snare, the whole operation not taking five minutes.

There was some slight bleeding from the nose, but the patient stated that she felt none the worse for the operation.

A week later the nose and naso-pharynx were found to be quite free from growth; the left ala had resumed its normal appearance, and respiration was perfect. The mirror showed a rough grey surface in the post-nasal space.

The macroscopical appearances indicate a myxo-sarcoma, so that the prospect of ultimate recovery is questionable. As it is, the result is a happier one than might have been anticipated from any of the capital operations suggested in text-books by the (all-sufficient) general surgeon. The slight disturbances of parts, and the minor calls upon the patient's powers of endurance, afford greater promise of resistance to any ultimate changes.

It is worthy of notice in this case that at no time was there any hæmorrhage, and the use of the ligature contributed greatly towards the ease with which the mass was removed from the pharynx.

Mr. WYATT WINGRAVE.—*Report of the foregoing Naso-Pharyngeal Growth removed by* Dr. WM. ROBERTSON.

Macroscopically the growth had the appearance of Gruyère cheese on section, since it was riddled with large and small cysts, filled with sticky material. Microscopically it consisted of embryonic cell structure, for the most part undergoing mucoid changes, whilst the cyst-like features were evidently due to similar changes occurring in the tracts formed by large fusion cells, characteristic of cylindrical sarcoma, of which it is a typical example.

Mr. WINGRAVE.—*Preliminary Notes of an Investigation concerning the Morbid Anatomy of Hypertrophic and Atrophic Turbinal Disease.*

The varied and apparently contradictory accounts of the morbid anatomy of Hypertrophic and Atrophic Rhinitis given by different authorities upon nasal diseases, have induced me to investigate the histological details attending persistent hypertrophy and atrophy of the turbinal bodies themselves. Through the courtesy of my colleagues I have collected an abundant supply of material, and am now able to give you the results of this research.

Your attention will at first be directed to the *Hypertrophic variety.*

Whilst, on the whole, confirming the generally accepted details, I was

particularly struck with one feature, which has hitherto been entirely overlooked, and which, I venture to suggest, affords a more scientific and, perhaps, satisfactory explanation than has yet been advanced, respecting one form of this disease, which I propose to call *turbinal varix.*

The histological features vary in degree and variety ; in some cases the mucoid changes are in excess, whilst in others the lymphoid, the glandular, or the vascular prevail ; hence a classification, although to a certain extent arbitrary, is at once suggested, viz. :—

1. Vascular or cavernous.
2. Mucoid.
3. Lymphoid.
4. Glandular.

These are placed in order of occurrence, for the cavernous variety is by far the commonest, and the glandular the least. Each may be associated with more or less catarrh. The mucoid and lymphoid varieties were mostly found in the middle turbinal, whilst the cavernous, although occurring occasionally in that situation, were mainly associated with the inferior body. Sometimes the increase of the lymphoid tissue is so rapid and free as to constitute a lymphomatous growth, and has repeatedly been diagnosed as sarcoma, from the alarming features which it presents, an interpretation often justified by the results, for sarcomata associated with the middle turbinal are by no means rare.

I shall, however, chiefly draw your attention to the lower turbinal. Its normal anatomy is so well known that I will only accentuate one point of interest, which a glance at the specimens will make quite clear to you. The anterior end of an adult turbinal is generally quite smooth, to which the posterior half presents a striking contrast, being swollen, rough, and wrinkled, even after soaking in spirit. This condition is markedly exaggerated in hypertrophic states, and appears as a large, mulberry-like mass by posterior rhinoscopy. In the young subject, however, the contrast is less marked, or even entirely absent.

Serial sectioning illustrates the difference even in a more striking manner, for whilst the anterior half is the seat of mucoid and glandular hyperplasia, the posterior half is almost entirely occupied by cavernous changes. These venous channels or spaces, the " Schwellkorper " of Zuckerkandl, are normally bounded by thick layers of visceral or plain muscle fibres, separated from each other by lymphoid or reticular tissue, and are supplied by small twisting arteries. Hence they vary considerably in their calibre under different varieties of stimuli, direct or reflex, and constitute " erectile organs." Now this function is emphatically denied by Bosworth, who says that their nature is not erectile, and that they are never erectile in health or disease.

This is a view which is certainly not confirmed by the histology, and by the remarkable sympathy which these bodies show with sexual and developmental phenomena.

A greater or less persistence and exaggeration of this function has been advanced as a probable cause of hypertrophy, for increased vascular supply leads to increased growth. Whilst admitting that this view may

FIG. 1.

Mucoid degeneration of the walls of a venous sinus from the inferior turbinal body, obj. ⅛ oc.c.

FIG. 2.

Bone distension, or cancellation of inferior turbinal body, obj. ⅛ oc.c.

satisfactorily dispose of a few cases, it certainly does not account for by far the majority.

In twenty cases of cavernous hypertrophy—*turbinal varix*—I found the following conditions eighteen times :—The muscular walls of the venous canals were in an advanced condition of mucoid atrophy. In places the muscular fibres were replaced by mere fibrous tissue, whilst in others the general mucoid changes had involved the entire thickness of the walls, and seemed to invade the interior, without any previous fibrosis, so leading to either a complete destruction of the sinus or an extensive distension.

These changes were continued into the bone spaces, causing well-marked distension, which was doubtless facilitated by the action of osteo-clasts, since these bodies were discovered in many instances evidently actively engaged in bone absorption, and consequent cancellation, especially in the middle turbinal.

In the mucoid degeneration of the muscular walls of the vascular spaces I venture to suggest that we have an interpretation of the morbid anatomy of this disease, for the walls having gradually lost their power of recoil they become by degrees more and more distended, eventually leading to a permanent morbid enlargement of the organ—in fact, a varix.

It may be urged that the degenerative process is secondary to pressure distension. This, however, could not be the case with muscular fibres, since it is not in accord with the laws of hypertrophy, and we simply have in the turbinal body a condition which is common enough elsewhere, as in piles and varicosed veins generally, plus mucoid degeneration.

An advanced degree of this condition may usually be diagnosed by the fact that the body responds but slightly to the contracting influence of cocaine—a consideration of no small importance in treatment, for it is this form which is invariably associated with so much bleeding, after removal either by snare or cutting ring.

When very marked they have been removed and reported as angiomata or papillomata, of which we have an illustration in Dr. Sandford's case to-day.

Atrophic Rhinitis.—The microscopic features generally associated with this disease may be briefly described as follows :—

1. Stratification of surface epithelium with desquamation.
2. Diminution of adenoid tissue.
3. Destruction of acinous glands.
4. Disappearance of venous sinuses.

Bosworth makes the strange remark in his summary that the disease is not due to a connective tissue hypertrophy, but to a transformation of epithelial structures into inflammatory corpuscles.

In addition to the above four general features, which were present in varying degrees, I have found others which are to me of considerable interest, and in whose interpretation I venture to suggest we may possibly find a solution of the pathological obscurity surrounding this disease.

Prominent in all sections was transformation of the surface epithelium

of the whole nasal chamber; in some few instances the ciliated and olfactory cells were merely wanting, but in most cases they were replaced by stratified epithelium, accurately corresponding with the Malpighian layer of the epiderm, of eight or ten rows, with beautifully marked "prickle" cells. Transformations of a similar kind, it may be remarked, are found in many situations, which are associated with changes of condition or function, *e.g.*, inverted uterus, perforation of tympanic membrane, developmental changes in the pharynx, etc. Below this epithelium the hyaline border or basement membrane is seen to have lost its regularity, and in many places to have disappeared entirely, being replaced by connective tissue and "wander cells."

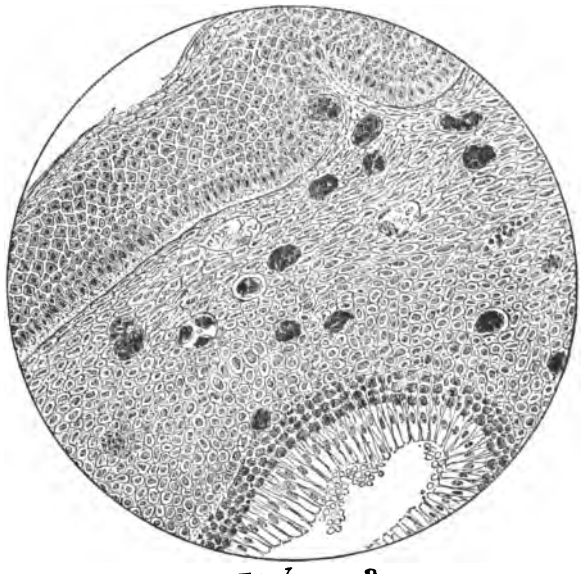

FIG. 3.

Atrophic Rhinitis—Middle Turbinal, showing Hyaline Bodies.

The subjacent lymphoid or reticular layer is markedly devoid of blood-vessels, but distributed irregularly in this region are seen (often in clusters) rounded hyaline bodies, which specially select the orange stain. They vary considerably in size; some are as large as $\frac{1}{350}$th inch, whilst others are about $\frac{1}{2000}$th inch. Many are apparently homogeneous, and enclosed in a bright capsule, which is often only seen with difficulty, whilst others have a granular appearance due to a breaking up. They are to be seen both free and enclosed in epithelial and connective tissue cells, which they distend.

They are seen in the transformed surface epithelium, in the glands, in the columnar epithelial inclusions, commonly called cysts, and wandering into the deeper tissues, where large pigmented masses occur, which

may probably be masses of spores containing pigment derived either from the blood or from the olfactory cells. This property of pigment absorption has been previously pointed out by Mr. Jackson Clarke in connection with melanotic cancers, and is one of great interest.

Wherever present, these bodies seem to be causing activity in the adjacent cells.

At first I thought that they might be the products of some degeneration, or perhaps thrombi, but further examination, with higher powers, threw a totally different light upon them. The large clear masses were seen to be encapsuled in epithelial and other cells exactly in the manner of a protozoa in the plasmodium stage, whilst the small clusters represented what may be considered spores, free, and still enclosed. This interpretation has been confirmed by a well-known authority upon the matter.

As you will see by the specimens, there is no difficulty whatever in demonstrating these bodies, provided the proper method is employed; they stand out in clear and vivid contrast with the surrounding structures, but the question is, what are they? That they are not due to endogenous cell formation I feel sure, and that they are parasitic is to me the most feasible theory. They are attended with plentiful indications of a slow inflammatory process, and giant or fusion cells are not uncommon.

No structure affords a better breeding ground for parasites than the nostrils: it is, therefore, not surprising to find some form of protozoa in the turbinals. Still, as I have failed to satisfy myself of their presence in other forms of nasal disease, excepting cancer, I venture to advance the view that atrophic rhinitis is essentially an inflammatory disease of extremely slow progress associated with a particular form of parasite, but whether the psorosperm is merely incidental, or whether it constitutes a potential cause, I feel it would at the present stage of investigation be unwise to affirm.

Briefly, the following are the most prominent details which I have noticed:—

1. Transformation of the surface epithelium into stratified and prickle cells.
2. Disappearance of hyaloid membrane.
3. Presence of large and small hyaloid bodies, free and encapsuled.
4. Masses of pigment.
5. Degeneration and proliferation of gland cells.
6. Giant cell formation.
7. Fibrosis of lymphoid tissue.
8. Atrophic changes in nerves and blood-vessels.

Since the discovery of the bacillus of tubercle no subject has created more interest in pathological circles than that of the parasitic origin of certain growths, and no one who has followed the discussions or seen the elaborate preparations at the Pathological Society can fail to be impressed with the magnitude and importance of the subject. Although by no means a novelty, it has gradually developed with no uncertain signs of vigour, and, notwithstanding the scepticism shown by some, it indicates the existence of a more liberal and philosophical interpretation of histological evidence.

Whatever these bodies may eventually prove to be—whether merely examples of endogenous cell multiplication, or a new method of cell division, or true parasites, or the results of bisexual metamorphosis—I am pleased to be able to demonstrate their presence in a disease of peculiar interest to us as specialists, as affording evidence which may prove of value in further investigations.

Mr. LENNOX BROWNE asked whether he had found these bodies in more than one specimen; also whether he considered that hypertrophic rhinitis was distinct from atrophic rhinitis, that is to say whether the latter was ever a further stage of the former, or was a different disease?

Dr. GRANT pointed out that there were many forms of atrophic rhinitis. There were some cases in which the symptoms were much more intense, and others in which they yielded readily enough to treatment. The variety in the forms, and the difference in the facility with which they yielded to treatment, explained the difference in the views held by men in respect of the prognosis in such cases. Some were hopeful, not to say sanguine, while others were despondent. There was probably more than one mode of origin. He thought that Bosworth was right in saying that many cases arose from suppurative rhinitis of some form in children. He referred to a case of two sisters, both the subject of atrophic rhinitis with offensive smell. They both had purulent vulvitis at the same time, and it was very probable that the nasal condition was due to direct contagion. That was a case in which atrophy would ultimately follow. Then, again, there were cases of atrophic rhinitis after small-pox.

Dr. WOAKES asked whether the author in speaking of atrophic rhinitis included all cases of ozæna.

Mr. WINGRAVE said he was referring only to those cases in which the turbinated bodies and other structures underwent a diminution in bulk with corresponding increase in the size of the nasal cavities and the formation of crusts and extension to the pharynx, *i.e.*, progressive.

Mr. LENNOX BROWNE agreed that atrophic rhinitis was associated with a very characteristic odour, quite distinct from that of ulcerated bone or antral empyema. He could not admit that one did not meet with atrophic rhinitis before puberty. The fact was that it almost always was found in young patients, whose parents were generally advised that the trouble would disappear on the establishment of menstruation, but, as they all knew, the reverse was the case. He asked the author whether he had ever seen atrophy in one nostril and hypertrophy in the other.

Mr. WINGRAVE, in reply to Mr. Lennox Browne, said he had seen the two conditions existing at the same time in either nostril. There was a form of atrophy which was generally preceded by hypertrophy. The atrophic rhinitis of childhood was clinically and pathologically different from the one he illustrated. He had found these bodies in nearly every specimen of true atrophic rhinitis, but, unlike the hypertrophic variety, specimens of typical cases of this kind were difficult to obtain. He did not think that there was the slightest relationship between the two affections specially described—any more, in fact than between typhoid

fever and small-pox—though there were undoubtedly cases in which there was an apparent transition from hypertrophy into atrophy. His impression was that this particular form of atrophy was much more rare before puberty than afterwards.

Dr. WOAKES pointed out that ozæna had a very distinct smell, quite different from any smell due to other conditions of the nostril. This smell he believed was usually associated with atrophy. He could not admit that atrophic rhinitis was a rare disease at any period of life.

Mr. WINGRAVE, in reply, said he was referring to a progressive condition, not confined to the nostril but extending into the post-nasal space, with the formation of crusts and a characteristic smell. That was the form which, in his opinion, was not often met with before puberty.

Dr. MACINTYRE suggested that the subject might very well form one for discussion at the next meeting. It might be well, however, to settle beforehand what was meant by each speaker in using the various terms. For example, atrophic rhinitis might be misunderstood. If twenty patients were brought into the room, probably there would be no difference in giving a name to the disease from which each was suffering, and yet in speaking of atrophic rhinitis in the abstract some different conditions might be meant. The term "inflammation," for example, was very loosely applied, and evidently included a great many different conditions which were grouped together in the present state of our knowledge, but which would ultimately be separated by histological research.

THE FIFTEENTH GENERAL MEETING

Was held on June 30th at the Rooms of the Medical Society of London.

Dr. ARTHUR SANDFORD (Cork) in the Chair.

The following officers were unanimously elected for the ensuing year:—

President—Dr. MACINTYRE, Glasgow.

Vice-Presidents—Dr. W. MCNEILL WHISTLER, Dr. NORRIS WOLFENDEN, Mr. MAYO COLLIER.

Council: Metropolitan—Dr. ED. WOAKES, Dr. ED. LAW, Mr. GEO. STOKER, Mr. LENNOX BROWNE, Dr. SANDFORD (*ex officio*). *Extra-Metropolitan*—Dr. MILLIGAN, Manchester; Dr. RICHD. A. HAYES, Dublin.

Hon. Sec.—Mr. WYATT WINGRAVE.

The following gentlemen were elected fellows:—

Dr. F. C. EWING (Washington).
Mr. M. HAUGHTON (Birmingham).
Dr. F. R. MUSSER (Philadelphia).
Dr. KIRK DUNCANSON (Edinburgh).

After the transaction of some formal business—

Dr. WHISTLER read notes of a *Case of Laryngeal and Pulmonary Tuberculosis, with arrest of disease for many years.*

R. F., aged thirty; occupation, photographer's assistant.

Notes.—Patient (then aged seventeen) applied at my clinic, 30th October, 1880, with the following symptoms: distressing sore throat, great difficulty in swallowing, voice reduced to a coarse whisper, constant cough, with muco-purulent expectoration, anæmia, emaciation, extreme weakness, and very marked febrile temperature. *Local signs:* pallid pharynx, with some scattered and circumscribed points of congestion on the posterior wall. *Larynx:* thickening and inflammatory redness of epiglottic and ary-epiglottic folds, with ulceration of the former, œdema of arytenoids overlapping the posterior portion of the glottis, diffuse infiltration and deep redness, with central linear fissure of the inter-arytenoid fold. Ventricular bands, red and bulging inwards, showed creeping ulceration, most marked on the left side; vocal cords very red and broad, the left one ulcerated, with jagged edge. Their apposition was very defective during phonation, owing to the impaired mobility of the arytenoids, the swelling of this region, and the loss of substance of the left vocal cord. *Thoracic signs:* dulness, prolonged expiration over both apices, with fine *rôles* over the right. No family history of tubercular disease was made out at this time. Since then a brother died of pulmonary phthisis. The mother has lupus of the nose.

Treatment.—This consisted of sedative inhalations (benzoin and conium) associated with remedial measures to allay the acute dyspeptic symptoms, followed, as soon as the gastric irritation was subdued, by cod liver oil. In addition to this, detergent solutions of soda and borax with carbolic acid, astringent lotions containing sulpho-carbolate of zinc and boracic acid, and antiseptic applications of eucalyptol in adepsine oil—all applied in fine spray to the larynx—together with insufflations of morphia, alone or in combination with iodoform and oxide of zinc, comprise the local applications employed. Under this treatment the patient before long showed distinct signs of improvement. By January the cough was much less distressing, the soreness of throat and dysphagia were greatly relieved, and his voice was much improved. By the middle of February the laryngeal infiltration and inflammation were much less pronounced, the ulceration was healing, and there was marked amendment in his general health. In May the ulceration was healed.

In August, 1881, during the meeting of the International Medical Congress in London, I showed the patient at the demonstration of cases in the section of throat diseases. The laryngeal signs then were as follows: thickening of the ventricular bands, with loss of substance of the left one, just in front of the arytenoid cartilage from the former ulceration, together with hypertrophy, redness and roughness of the vocal cords, and of the inter-arytenoid fold. There was no ulceration or œdema, and a free view could be obtained into the trachea. The patient was in a fairly comfortable condition. He was able to take regular exercise, had a good appetite, and was steadily gaining in weight. He was now fairly

free from cough, and spoke without pain or fatigue with a good, though still rough voice.

During the autumn of that year he again presented himself at the clinic, after several weeks' sojourn in the Convalescent Home at Eastbourne, greatly benefited by the change. There was no return of ulceration in the larynx, the laryngoscope showing on the contrary exceptionally marked dense cicatrices over the ventricular bands, with some thickening and a papillomatous outgrowth on the anterior face of the inter-arytenoid fold. All active disease in the lung was arrested. He had been wearing for a long time, and almost constantly each day, a respirator containing creosote sprinkled on cotton wool; and taking large doses of cod liver oil. I may say here that the patient has kept up these remedies at longer or shorter intervals up to the present time.

Since 1883, at which date he resumed his work, the patient's progress has been one of continued improvement, and he has been regularly engaged at his business for ten years. I have followed his case at intervals of six or eight months, from the time I ceased active treatment to the present time.

In April, 1892, there were, for the first time, some threatening indications of acute relapse. His cough became very troublesome, accompanied by pain in the chest. He had been gradually falling off in general health for a few weeks, the debility being associated with slight rise in temperature. The larynx was, however, as before, free from any signs of active disease—no renewed infiltration or ulceration.

There was some dulness over the right apex, with harsh breathing and dry superficial crackling from pleuritic thickening of long standing. Tubercle bacilli were found in the sputum. The creosote inhalations were renewed, together with cod liver oil and malt. All the symptoms were relieved by this, and the patient has remained well through the winter. He is now free from cough, pain, or hoarseness, is in good condition, and has gained half a stone in weight during the past six months. He has been all this time at work, and the only inconvenience he has experienced is occasional oppression in breathing if he takes any violent exercise.

Present laryngoscopic signs.—Limited loss of substance on the right border of the epiglottis from former ulceration—presenting two small crescentic cicatrices with whitish-grey borders: vocal cords broad with more marked thickening and redness of the right one (but no ulceration of either); and a very narrow web springing from the vegetations of the inter-arytenoid fold, and extending to the posterior attachment of the vocal cords. Free movement of the cords in adduction and abduction.

This case was published by me in 1885, in a paper on "The Prognosis of Laryngeal Phthisis as influenced by local treatment." I have much pleasure in bringing the patient before the society now, to report his subsequent progress, and show the very exceptionally favourable result so far obtained, after a period of over twelve years. Tubercle bacilli are still present in the sputa. The thoracic signs at this date are, weak

breathing over both lungs, with bronchophony, and pleuritic crepitation at the right apex. The temperature is normal.

Mr. LENNOX BROWNE pointed out that it was often the case that long after the symptoms had subsided bacilli might be discovered in the sputa. This had been strikingly exemplified in the case of a patient shown by him before the Medical Society some years ago. That patient came to him with such marked dysphagia that she declared that she would rather die than undergo the suffering entailed by attempts to swallow. On examination she was seen to be suffering from tuberculosis of the pharynx, larynx and fauces, but under treatment recovered completely. Nevertheless, four or five years afterwards the saliva and sputa contained tubercle bacilli. He had seen her six months ago, and then no bacilli could be discovered. The persistence of the bacilli after subsidence of the symptoms was a point of some importance when we were considering a question of cure.

Dr. WOLFENDEN said it must be within their recollection that Dr. Hunter Mackenzie had read a paper on that very subject some years ago tending to prove that the presence and abundance of the bacilli in the sputum bore no ascertainable relationship to the activity of the disease. He pointed out that the local conditions were greatly dependent on the general condition of the patient, and if the general condition improved then the local lesions would improve under almost any treatment. He himself always adopted a plan of treatment consisting in scraping, curettage, and applications of lactic acid. The results were by no means uniformly successful, but he had seen some cases of cure of local lesions, and many in which the patients remained free from symptoms for a considerable time. His experience had taught him that, where the general condition of the patient did not improve, no treatment afforded much benefit locally, and that a small proportion of individuals whose general condition was favourable might be cured of their local lesions by mild local measures.

Dr. WHISTLER, in reply, admitted that the case was quite exceptional, and the result was not one that they could anticipate in the majority of the cases that came under treatment.

Dr. MACINTYRE said that the fellows of the Association were indebted to Dr. McNeill Whistler for the very interesting case which he had brought before them. Now and again we met with cases where, in spite of distinct evidence of tubercle, the patient's history seemed tolerably good. He had had an interesting case of phthisis, something like ten years ago, shortly after the opening of Anderson's College Dispensary. On making careful examination of the throat, no doubt existed in his mind as to the presence of a specific ulcer in the inter-arytenoid membrane. It might be useful to note also that the diagnosis of phthisis laryngea was made in this case by other observers skilled in the use of the laryngoscope. Confirmation of the nature of the disease had been got by the examination of the sputum, but search for the bacillus was not made when the patient was first seen, for the simple reason that we were not then in the habit of so doing. However, on going into the patient's history it was found that he had been in the Glasgow Royal Infirmary seven years previous to the first consultation. The hospital records showed that the patient had seventeen

years ago suffered from hæmoptysis, and the diagnosis of phthisis was made at that early date. For seventeen years, therefore, this man had been able to go on with his work and, as far as could be judged, in relatively good health. Of course we had to look upon all such cases as exceptional, but recent investigations by Dr. Coats had shown that fifty per cent. of our population, at one time or another, in one or other part of the body, had suffered more or less from tubercular deposit, and it was therefore reasonable to conclude that a number of people so affected recovered.

Dr. NORRIS WOLFENDEN.—*Lupus of the Skin, Mouth, Pharynx, and Larynx, with Pulmonary Phthisis.*

The patient was a girl, aged nineteen, whom he saw for the first time on April 19th, 1893. She said she had been ailing since October, 1891, when she suffered from influenza, and in January of last year she lost her voice with cough and expectoration, which continued until June, when she almost completely recovered. She fell ill again in August, 1892, and has been unwell ever since. When he saw her an abscess had broken in the jaw, which had continued to discharge since. A lump was seen near the inner angle of the eye, being apparently a tubercular nodule. The epiglottis was almost completely destroyed, only the base remaining. The inter-arytenoid commissure and the ventricular bands were enlarged, with lupoid infiltration, the cords being hidden. The base of the tongue was lifted up into nodular folds, and was much fissured. Both lungs were extensively infiltrated with tubercular deposit, but no indication of active mischief was discovered anywhere. Surgical treatment seemed difficult to carry out in such a case, and having had the advantage of a consultation with Dr. Heron, it was decided that tuberculin should be given a trial. This not being procurable at the time, injections of tuberculocidine were made. She was given in all thirteen injections in increasing doses. There seemed to be some reaction after the first dose or two, the injections being made in the neighbourhood of the lupoid tissue of the face. The reaction only lasted a day or two, and even when the dose was carried to ·2 c.c. no further effect was apparent. Some improvement was noted in the condition of the tongue, which was less tender and did not bleed so much. On one occasion, when the injections had been suspended for a day or two and were recommenced with a stronger dose, the temperature went up to 102° F. The interesting point was the association of lupus with tuberculosis of the lungs. He pointed out that tuberculocidine was a product introduced by Klebs to supplant tuberculin, the irritating and pyretic properties of which were extracted. Carl Spengler advised a combination of the two substances. That was the next thing he would try, and failing relief he should proceed to surgical measures. He alluded to a paper by Mr. Malcolm Morris, which seemed to show that patients who had been treated by tuberculin were subsequently more amenable to surgical measures. This was, if true, an important observation.

The PRESIDENT said that in his experience tuberculin had not given any number of good results.

Mr. LENNOX BROWNE referred to a case which he had again exhibited that day. It had been shown by him on a previous occasion, to which some doubt had been expressed as to the diagnosis, a suggestion having been made by one fellow that the lesions were syphilitic. Since then, the patient had been put on a course of mercurial inunctions, followed by a course of iodide of potassium to considerable doses without in any way affecting the condition, and, in fact, had proved curiously unresponsive to treatment of all kinds. He had come to the conclusion that tuberculin acted on the lesions just in the same way as an attack of erysipelas. He referred to a case, also shown at the last meeting, in which the patient each time developed an attack of erysipelas followed by some improvement, and then the case went back just as it did after the tuberculin reaction. Mr. Mayo Collier had reminded him that several cases had been reported as treated by a saturated glycerine solution of sulphurous acid. He had adopted this treatment with great diligence in the case to-day shown, and certainly with more benefit than had attended any other method of treatment. In the other case, the application of the glycerine solution had provoked such a rise of temperature and a threatening of erysipelas that it had to be abandoned. Considering how negative were the symptoms which followed even serious stenosis in cases of laryngeal lupus, he was not at all sure whether any local treatment was of much good and he thought it was best to attend to the general health. Two facts of interest had been brought before them in confirmation of the opinion that lupus was a tuberculosis. In one case they had been shown a case in which the mother of a patient with laryngeal phthisis suffered from lupus in the throat, while in another there existed in the same individual dermal and pharyngo-laryngeal lupus with pulmonary phthisis. With reference to the presence of bacilli, admitted to be but rarely found in lupus, he asked Dr. Wolfenden whether he had ever come across a case in which bacilli had been found when the lupus of the mouth and throat was not associated with pulmonary tuberculosis. He had only seen one such specimen and that not in his own practice. He had written to Koch asking to be favoured with a specimen of this sort, but he had been told that none were then available. It had always been taught that the dysphagia associated with laryngeal phthisis tended very much to aggravate the prognosis, and doubtless this was true to some extent; but it was a question whether the improvement in general health and lung condition which followed successful local treatment of laryngeal tuberculosis was not directly due to this last circumstance.

Dr. GRANT said that in some cases the nostrils were almost plugged by masses of lupoid growth, and in these local treatment was eminently desirable. He mentioned the case of a young lady, seventeen years of age, who had suffered from sore throat for two years. She had a curious squeaky voice, owing chiefly to the obstruction of the nostrils. The disease had extended up the nasal duct on to the caruncles and there was some ulceration of the conjunctiva over the puncture, with consequent grave discomfort. There was erosion of the roof of the mouth, and the larynx presented appearances similar to those in Dr. Wolfenden's case. Great comfort was afforded in this case in scraping away the vegetating

masses (specimen shown by Mr. Wingrave) from the nose, the return of which was almost completely prevented by the application of salicylic acid, in the form of an ointment. He then applied lactic acid to the mouth with satisfactory results. He referred to a case brought by him before the first meeting of the Association, that of a girl with a patch of lupus on the skin of the face and in the interior of the nostril, which was almost entirely occluded. She had a peculiar appearance of the teeth and gums, figured in Mr. Lennox Browne's book. He scraped thoroughly, and applied lactic acid to the palate, applying salicylic acid to the nostrils with satisfactory results. This method of treatment was applicable in regions not readily accessible, and it had this further advantage that it could be carried out by the patients themselves. He used ten grains of the acid in ʒss of vaseline. At the same time he agreed that a good deal depended upon the general treatment. In this case he had given cod liver oil, iron, and arsenic. He pointed out that in certain cases local treatment was not devoid of danger.

Dr. WOLFENDEN, in reply, said he had certainly seen the bacilli, though they were rare in cases apart from tuberculosis elsewhere. He had particularly desired to elicit an opinion whether, as alleged, tuberculin assisted subsequent surgical treatment. If this was true, it was a very important therapeutical point.

Mr. LENNOX BROWNE said they had only obtained benefit from tuberculin in one case of tuberculosis of the ear. In that case some doubt had been thrown on the diagnosis, but it reacted to tuberculin. A great reduction of the swelling and healing certainly followed injections in that case, and there had been no relapse when he saw the patient some time after. He did not mean to say that there were not some cases of lupus that would not benefit by local treatment, but the majority would not and might even get worse. In patients with lupus of the larynx, local treatment sometimes rendered necessary an unduly urgent tracheotomy.

Dr. MACINTYRE said that in one case under his care which had been treated by tuberculin the application of the cautery had been followed by better results than previously obtained. He suggested that the matter was one of sufficient importance to make it desirable that some investigation on this point should be undertaken by the fellows of the Association. For example, it would be very easy for a number of them to take cases which had been already treated by tuberculin, and apply the actual cautery, and note the results for a future meeting of the society.

Mr. WYATT WINGRAVE.—*A Case of Suppurative Ethmoiditis with Caries.*

The patient, a male, F. R., aged thirty-six, presented himself at the Central London Throat Hospital some months since, complaining of pain over the eyebrows and discharge from the left nostril. He attributed it to an attack of influenza eighteen months ago, which left him with an excruciating pain over the bridge of the nose and dryness of the nostrils. At the end of a week "something gave way," and a profuse yellowish discharge came on, which soon became white in colour. Ever since, he

has continued in much the same way, with alternating periods of supra-nasal pain, blocking of nostrils, and slightly fœtid discharge, which are always worse in cold, damp weather.

There is no history whatever of any specific nature, he has two healthy children, and does not remember a day's illness with the exception of the one attack of influenza.

On examination of the nostrils some creamy pus is seen just below the left cristo-ethmoidalis, but nothing else abnormal beyond occasional turgescence when "he has a cold." On passing a probe upwards and backwards, by the outer side of the left middle turbinal (*i.e.*, through the pus) at a depth of about three-quarters of an inch bare bone is distinctly felt, in an apparently large-sized cavity, and which is evidently one of the anterior ethmoidal spaces.

There is no indication of polypus, nor has he any knowledge of ever having suffered from such a thing. His maxillary sinus is at present apparently free from disease, and there is no history of any symptoms indicative of its being involved, but it is an open question with regard to his frontal sinus. It is more than likely that this, too, is free, for although the pain is often referred to the superciliary region, it has never extended far upwards, and is generally over the bridge of his nose. Whilst trans-illumination has excluded disease of the maxillary sinus, the conditions revealed by the probe are quite sufficient to establish disease of the walls of the anterior ethmoidal spaces, but it is probably only a question of time ere the other contiguous chambers become involved.

At present nothing had been done in the way of active treatment, as the writer was anxious to exhibit an "untouched" case, but it was proposed to freely open up the diseased chamber and irrigate it with alumnol. The symptoms certainly did not justify an opening into the frontal sinus from the skin.

The patient was exhibited as a good example of a class of cases which are by no means rare, and of whose existence the probe is necessary for demonstration.

Under the microscope are shown sections of tissue removed from an almost identical case, in which will be seen well-marked bone absorption and active caries. The osteoclasts or absorption cells are remarkably prominent; but it must not be assumed that the presence of giant osteoclasts necessarily indicates disease, for very few sections of healthy ethmoids are free from them, especially in early life; they are, in fact, performing a necessary and physiological function, that of absorption or "cancellation," and it is only when their action becomes exaggerated that we are justified in interpreting the process as a morbid one. This detail is, however, of great importance, because the writer believes that in it will be found a definite clue to many of the pathological changes to which the ethmoid region is liable.

Very slight causes, such as attacks of acute or subacute catarrh, will readily excite an exaggerated activity of these cells, constituting a process of slow periostitis, and resulting in true caries.

A condition similar to this in principle is seen in the pathology of rickets, which is essentially an inflammation of growing bone.

This active atrophy of the walls and consequent enlargement of the spaces is at the same time increased by the swollen mucous membrane blocking the narrow orifices of the ethmoid sinuses, so preventing the escape of the morbid secretions, and giving rise to the different varieties of cystic disease.

These histological changes are practically identical with those described by Dr. Woakes under a different name and with a different interpretation. They, however, substantially corroborate much that Dr. Woakes has advanced, and may assist the further consideration of so important a disease, whose existence is not only doubted but even denied by surgeons of repute.

Dr. GRANT observed that the case was a very typical one. There was a danger of getting into a groove, and seeing in every case an illustration of the special disease, which, in its exaggerated form, took on the appearances described by Mr. Wingrave. A recent German writer, for example, seemed to think that in every discharge from the nose there was empyema of one or other of the cavities of that organ. This writer had a very simple rule for treatment. He said they probed far too little, and whenever they saw pus they ought to probe, and that when they could feel bone then they ought to scrape. The writer doubtless went too far, but there was a good deal of truth in what he said, and it was their business to distinguish between the "Wahrheit" and the "Dichtung." He asked under what conditions was caries to be met with in rhinitis and polypus. In most cases of polypus there was no caries, but possibly, by instituting a more careful search, exposed bone would be discovered more frequently than was at present thought to be the case. He regretted that Dr. Woakes was not present on that occasion to put before them his own interpretations and treatment.

Dr. MACINTYRE.—*Multiple Papillomatous Tumours of the Larynx and Bronchial Tubes.*

Mrs. K., aged thirty-two, was sent to me on the 15th March, 1889, by Dr. John Nairne, of Glasgow, suffering from loss of voice. The patient had lost her voice twelve months previously. A careful examination of the general and local condition of the patient revealed two things of importance; firstly, mischief in the larynx itself, and secondly, great irritation in the bronchial tubes. The patient was quite aphonic; there was great difficulty in breathing, and there was also a great deal of expectoration. On microscopic examination the whole interior of the larynx below the level of the ary-epiglottidean folds was seen to be filled with papillomatous masses. The tumours sprang from the true cords mainly, but it turned out afterwards there was also one sub-glottic neoplasm just below the anterior angle. There was a good deal of irritation in the region, and the exact location of the tumours could not be made out because of the profusion of the growth. The tumours were removed under cocaine, in the presence of Dr. Nairne, but required four sittings to completely remove them; Mackenzie's forceps were used. The voice was perfectly well within a fortnight, and the difficulty in breathing was practically removed. From then until now the larynx has remained absolutely

normal, and there has not been the slightest recurrence of the growth. Histological examination of the tumour showed that we were dealing with benign multiple papilloma.

The history of this case is interesting. She was treated before coming to me in Glasgow, then on the Continent, first for phthisis, next for syphilis; the parts were cauterized with the galvano-cautery and chromic acid, but the larynx remained unchanged. The second important part of her history is that relating to the presence of severe bronchitis. For many years she had been subject to this, and the winter following the operation she was seriously ill with an acute attack. Dr. Finlayson was called in consultation. There seemed to be some complication, and I was asked to examine her about eight months after the removal of the laryngeal tumours. The patient always complained of great irritation at the lower part of the trachea, and careful examination revealed the fact that there seemed to be some unusual obstruction to the breathing in this region, and the inspiratory and expiratory sounds gave indication of stenosis suggestive of a movable body. Some light was thrown upon this shortly afterwards by the coughing up of a small papillomatous mass followed by a little hæmorrhage. The bronchitis was recovered from, and since then she has four or five times coughed up similar masses. So urgent had the symptoms become upon one occasion that I suggested the advisability of doing a low tracheotomy, and making some attempt to remove the obstruction in the lower part of the trachea. Fortunately this was not required, because when the case became most urgent the papillomatous masses were expectorated. The last portion was coughed up about five months ago. This specimen I have with me, and under the microscope a section will be seen showing it to be much the same as the laryngeal neoplasms. It is satisfactory to note that during the past four years she has greatly improved in health. The patient was seen by me lately, and is now in good health.

The PRESIDENT recalled a similar case with a less fortunate result. Two years ago the patient, a sailor, was treated for a so-called specific ulcer of the soft palate. This turned out to be an epithelioma of the soft palate and tonsil, and he removed about three-quarters of the palate, together with the tonsil. The patient obtained great relief, and, though nearly two years had elapsed, there was no recurrence. Subsequently, about six months ago, he returned with swelling of the glands of the neck, but he was then lost sight of. Three months later the enlargement had assumed considerable dimensions, but there was no sign of recurrence within the throat. He looked upon it as a hopeless case, and at the present time the patient was practically moribund.

Dr. GRANT said that it illustrated the very curious tendency of papilloma to disappear suddenly from the surface of the skin, and the sudden disappearance of papillomata following tracheotomy. This tendency was an interesting point in the chapter of laryngology. He regretted that Mr. Lennox Browne was not present to discuss the question whether or not there were post-nasal growths in this case. That raised the question whether adenoids or other form of nasal obstruction did not favour the formation of neoplasms in the larynx. Some years ago he had brought forward the

case of a child with papilloma of the larynx, in which endeavours had been made to remove them by means of the snare, quite ineffectually, however, and he had to resort to Mackenzie's forceps, which enabled him to effect their removal without any great difficulty. After many attempts he found that even the little pedicles had totally disappeared, and the laryngeal surface was perfectly healthy.

Mr. WINGRAVE asked whether the child suffered from papilloma elsewhere. In the case of a single papilloma it was easy to ascribe their origin to irritation, but when there were such large numbers as were sometimes seen it was suggestive of some other cause at work beyond a merely local influence. In fact, one could not but think of a possible papillomatous dyscrasia as suggested by Dr. Wolfenden. He asked whether in any of the cases of multiple papilloma of the larynx there had been a marked tendency to the formation of papillomata elsewhere. Of course the skin was not derived from the same layer of the blastoderm as the mucous membrane of the larynx. The specimen, under the microscope, was a beautiful example of a typical papilloma, though the prickle cell arrangement was not as obvious as was sometimes the case. He concluded with a reference to the possibility of irritative papillomata assuming malignancy.

Dr. WOLFENDEN said that he was not the first to suggest the possibility of there being a papillomatous dyscrasia. This idea was a very old one, particularly with French pathologists. The case referred to by Mr. Wingrave was one of multiple papilloma of the uvula, larynx, and ear, occurring simultaneously in an adult. It was on that occasion that Mr. Lennox Browne made some remarks about the connection between adenoids and the existence of papilloma of the larynx. He himself had hesitated a good deal to accept such a causal connection, and pointed out that many people were subject to hypertrophies of the lymphatic system generally, and when these two things, post-nasal adenoids and papillomata of the larynx, occurred together it was possible that the latter were also due to lymphoid overgrowths in the larynx. He suggested that there was more adenoid tissue in the larynx than one usually believed and cited one particular case of laryngeal growth operated upon and examined by himself, and published and figured in the "Studies in Pathological Anatomy" by Dr. Martin and himself. There was a growth in the larynx in an adult woman having the exact appearance of a multiple papilloma. Even after removal it looked like papilloma, but under the microscope it was recognized to be lymphomatous in structure. It had recurred, however, for years. Papillomata of the larynx were so common that one never thought of examining the majority of them under the microscope. Possibly if they did so, they would discover that at least some were lymphomata, and this would explain, too, why post-nasal adenoids were sometimes met with together with laryngeal growths; being proliferations of lymphatic tissue in various parts, just as the association of enlarged tonsils and adenoids.

Dr. BARK mentioned a case in which he had used Dr. Dundas Grant's forceps in a similar circumstance, and he spoke highly of the ease with which he had been enabled to remove the growths at one sitting.

Dr. MACINTYRE, in reply, said that there were no post-nasal growths in his case, nor was anything of consequence found in either the nose or the throat. No other papillomatous formations were present on the skin. He agreed that Dr. Grant's forceps were extremely convenient of application, and he fully endorsed what had fallen from the previous speaker.

Dr. WOLFENDEN also added his testimony in respect of the great convenience of the forceps.

Dr. MACINTYRE read the following notes of a *Case of the Recurrent Laryngeal Nerve paralysed in a Child from its implication in Scrofulous Glands*, kindly sent him by Dr. James Finlayson, of Glasgow.

Dr. MACINTYRE said the interest in this case lay in one point particularly, viz., the age of the child; but that was not all of importance in a case such as this. Recently a good deal had been written about laryngeal paralysis, and it was extremely important to have correct observations, particularly with *post-mortem* records. While the cough in this child seemed to be so striking as to immediately call the attention of such a careful and experienced clinical observer as Dr. James Finlayson to it, still in a more or less degree it was not unlikely interference with the recurrent laryngeal nerve in children took place oftener than they thought. Dr. Finlayson's notes are as follow :—

Paralysis of the recurrent laryngeal nerve has long been well known to occur in cases of aneurismal and other thoracic tumours. The implication of this nerve from the pressure of bronchial glands, and from lesions of the pleura and pericardium, have also been often reported in adult patients. One such case came under my own observation, where the laryngeal paralysis with other symptoms had led me into the erroneous diagnosis of an aneurism. The pathological changes in the glands likely to lead to implication of this nerve in childhood seem to have been early recognized, and even insisted on; but since the precision of laryngoscopic examination has been possible very little seems to have been done in clearing up this matter; so at least Gerhardt says. I have looked over the volumes of the "Internat. Centralblatt für Laryngologie," and although many cases of recurrent nerve paralysis are recorded, and many of those noted are due to disease of the bronchial glands, pleura, etc., I could not see a single case described as occurring in children. Gerhardt, indeed, speaks of vocal cord paralysis in children being ascribed to bronchitis, leading to implications of the glands; but these cases seem to have been either bilateral in character or comparatively slight in degree, and so different from the conditions referred to here.

On visiting the Children's Hospital on May 2nd, I was astonished to hear a peculiar cough, such as I had never heard in a child. On inquiring who had coughed, a child of four and a half years was pointed out, and I found that this child had just been admitted that day. The cough resembled the most extreme form of the hoarse cough such as we meet with in aneurismal disease leading to laryngeal paralysis. The first point was to ascertain whether there was any local disease in the larynx to account for the strange cough. Dr. Walker Downie was asked

to examine the larynx next day, but no swelling, ulceration, or disease of the mucous membrane was present. There was, however, paralysis of the left cord as regards abduction, so that it remained fixed near the middle line, while the right moved freely.

This cleared the way for the diagnosis. The symptoms and physical signs pointed to consolidation and softening from phthisical disease in the left lung in particular; and the absence of any tubercular disease in the larynx seemed to me to make it very certain that the case was one of the class referred to where implication of the recurrent laryngeal nerve had been brought about by the pressure of glands or the melting of pleuritic adhesion. The child was extremely rickety, and the family history was highly tubercular. A sister of the patient, also rickety, had died in our hospital shortly before, and at the *post-mortem* examination in her case, in addition to tubercular meningitis, there were caseous bronchial glands, and caseous masses in the lung. Another child was said to have died of some brain disease, and other three children were said to have died of "decline in the bowels."

The peculiar cough continued in our little patient, and she gave utterance to curious hoarse whining cries when wishing anything. She spoke very little while in the ward, but the voice was not specially hoarse. The temperature was at times high, but extremely low temperatures were also frequently found, even when taken carefully in the rectum, 95°, 96°, 97°. She died in May.

Only once, on May 13th, were fluids returned by the nostrils. No tests for anæsthesia were applied; but it was noticed that the irritation of the laryngeal mirror was remarkably well borne.

The illness of the patient was traced back, as regards a cough, to a fortnight before the new year, and she was taken to the out-patient department on January 31st, and had been prescribed for there. The *post-mortem* examination was made on May 16th, 1893, by Dr. Joseph Coats.

Summary.—Phthisis pulmonalis; caseating bronchial glands, involving the left recurrent nerve. Peritonitis (tubercular) with glueing of liver, stomach, and spleen.

Chest.—The right lung is adherent posteriorly. It presents on section numerous considerable caseating areas. The left lung is firmly adherent posteriorly, and especially at base. This lung is almost entirely solidified, the solidification being due in part to an œdematous and partially consolidated condition, and in part to dense caseous areas. The latter are of various size, from small spots in the grey tissue up to an extensive solid infiltration, the largest example of which is at the lower edge of lung posteriorly, where a wedge-shaped area about one and a half inches in diameter is continuously caseous. Tracing the left pneumogastric, it becomes adherent to a much enlarged and caseating gland, but can be traced down without much apparent alteration of structure to the level of the root of the lung. The adhesion begins just above the origin of the recurrent nerve. This nerve is intimately connected with and involved in caseating glands, almost from its origin, so that it is with difficulty traced round the aorta It appears to be

spread out, and its substance involved in the infiltration. The larynx presents nothing remarkable.

The pericardium is completely adherent, and the visceral layer is almost continuously beset with yellow tubercles. Between the visceral and parietal layers there is a partly organized tissue; the parietal layer presents small white tubercles which are scarcely at all caseous.

Abdomen.—There are also extensive adhesions of peritoneum and omentum.

Brain.—Presented nothing very remarkable, but it was preserved in fluid for hardening and further examination.

Dr. GRANT referred to an interesting case published by Dr. Robertson, of Newcastle, in the JOURNAL OF LARYNGOLOGY, who diagnosed posticus paralysis. The symptoms were suggestive of spasm of the adductors rather than paralysis of the abductors. The conclusions formulated by the author would add to the probability of the correctness of his diagnosis. This is a point they ought to bear in mind, especially in examining children, in whom laryngoscopic examination was sometimes difficult.

Dr. MACINTYRE.—*Malignant Disease of the Tonsils.*

(A) *Primary Epithelioma of the Tonsils.*

A considerable amount of attention is now being paid to these diseases in the region of the tonsils, and whereas a few years ago it was considered very rare, a sufficient record of cases has now been obtained to show the necessity for careful examination of these organs with a view to the early detection of malignant disease. During the past ten years I have had twelve cases of primary malignant disease of the tonsils and others secondary under my care, details of which may be given in some future paper. My object, however, at present is not to give a complete list of these, but to refer to two, the one of epithelioma and the other of sarcoma, in which some points of interest are to be noted.

J. A., aged sixty, residing in Forres, was sent to me on September 18th, 1891. The patient complained of pain on the right side of the throat darting to the ear. He stated that he had been troubled with his throat for some months. His general appearance was very good. His past history did not bear upon the case; he had, however, been somewhat intemperate in his habits. The family history revealed nothing of interest. An examination of the nostrils showed evidence of old-standing rhinitis, but not to an extent to give any trouble. The only thing to be seen of any consequence was a small tumour situated at the lower end of the anterior pillar of the fauces on the right side. The pillar had been adherent to the tonsil from old, and probably very early, inflammatory mischief. The disease was infiltrating the lower half of the tonsil, and there was also a slight infiltration of the small lax band of mucous membrane where the covering of the pillar joins that of the dorsum of the tongue. The tumour was hard, the surface broken, and the edges of the ulcer very hard. At the time of examination there was a little hæmorrhage, evidently coming from a cleft in the centre of the tumour. The position and appearance of the tumour suggested malignant disease of the tonsil and anterior pillar of the fauces. There was nothing wrong

with the voice; respiration was normal, and the heart's action was very good for a man of his years; smell, taste, and hearing were normal; there was no involvement, however, of the lymphatics as far as external and internal examination could reveal.

The patient was taken into the Glasgow Training Home on 21st September, and put under ether by Dr. Brown Henderson. The late Dr. Dick, of Glasgow, his medical attendant, assisted me. When the mouth was opened with the gag and the tongue drawn forward, it was quite easily seen that the tumour was limited to the pillar of the fauces and the tonsil. With a pair of curved scissors the mucous membrane was wholly removed from that side of the tongue clear of the disease. The anterior pillar of the fauces was then removed with the knife, and the whole tonsil also carefully excised. The hæmorrhage was easily commanded, and the patient made a most satisfactory recovery. He was dismissed from the home twelve days after the operation. Microscopic examination of the tumour showed that we were dealing with an epithelioma of the tonsil. The patient visited me this year; he is now in perfectly good health, and has not experienced the slightest pain since the operation. The cicatrix which represents the parts originally removed is perfectly healthy, and there is not the slightest evidence of recurrence.

(B) *Sarcoma of the Tonsils.*

Mrs. M., aged fifty-eight, was sent to me by Dr. Macdonald, of Glasgow, on 1st September, 1892. Examination of the upper respiratory tract showed there was a tumour of the left tonsil, which had encroached upon the anterior and posterior pillars of the fauces; it had also extended to the dorsum of the tongue. The whole tumour was of the size of a cherry. It had evidently been encapsuled, hard to touch, and there was no infiltration of the lymphatic glands. The patient's complaint was slight pain in swallowing. The respiratory and cardiac systems were practically normal; smell, taste, and hearing were also unaffected. There was slight ulceration of the surface, which was somewhat nodually irregular.

She was admitted to Ward 18 on 10th September, and it was decided at a consultation to remove the tumour, as there was little doubt that we were dealing with a sarcoma of the tonsil. On the 24th the patient was put under chloroform, and, with the assistance of Dr. Pringle, of the Royal Infirmary, I removed the growth. Both anterior and posterior pillars of the fauces were removed. The tonsil was also completely removed, and the mucous membrane at the side of the tongue cleared away, well beyond the area of infection. The patient did fairly well. On the second night after the operation there was a pretty severe hæmorrhage, which the house-surgeon controlled. With this exception, she made a very satisfactory recovery, and was dismissed from the hospital on 11th October, well. The patient visited me for three months afterwards, and nothing could be detected by way of recurrence. On 1st May of this year, however, the patient was admitted to the female throat ward in the Glasgow Royal Infirmary, complaining of pain in swallowing. She stated that about two months previously she had noticed a swelling in the right tonsil. The house-surgeon, who reported the case, states that the

right tonsil was then seen to be enlarged, and covered with patches of dirty creamy-like matter. The tumour was firm in consistence, and entirely involved the tonsil. The glands in the neck were largely affected, and it was quite evident the patient was now suffering from a rapidly growing tumour, which had invaded the system, and which was far too extensive to be removed. The patient stated that she would have come to the hospital, but was afraid of another operation, and this explains the interval between my seeing her and her re-admittance to the ward. The tumour at the time of admittance had, and even now has, no connection with the other side. There is not the slightest reappearance on the left side where the first tumour was removed. A portion of the tonsil, which was hanging loose in the throat, was removed and given to Dr. Lindsay Steven for report. This pathologist reported: "The specimen consists of two portions of tissue, the larger about the size of a small bean. They are soft, white, and irregular in shape. Sections have been cut by embedding in collodion, and stained in toxin and hæmatoxylin. The whole structure is composed of closely-set small round cells, without any definite stroma, and, on the whole, the histological appearance will justify the diagnosis of small round-celled sarcoma. The corpuscles are, upon the whole, smaller and more closely packed together than one would expect in simple inflammatory tissue."

This histological examination is exactly the same as that of the original tumour from which she suffered at the time of her first admission to the hospital.

It is interesting to note in connection with these two cases that where the disease was removed at an early date there was no recurrence. Of late I have taken great care in teaching to instruct students about the necessity of making careful examination of the side of the tongue and its junction with the anterior pillar of the fauces in all cases.

In a considerable number of instances during the past year I have noticed excoriations and fissures in this region, and I now make it a rule to remove all such as speedily as possible. In one such case removed, where the swelling was not above the size of a split-pea, the histological examination gave clear indications of epithelioma. We know that while primary malignant disease of the tonsil has been regarded as comparatively rare, on the other hand epithelioma of the tongue often involved the tonsils secondarily. We further know that the angle between the fauces and tongue is a very common seat for this disease to make its appearance. It is not at all improbable that early detection of malignant disease in this direction, where it involves the fauces or tonsils only and before glandular infection, might, if detected early enough, be as successfully removed as epithelioma of the lip.

Dr. GRANT insisted upon the amount that could be done by the mouth without recourse to external pharyngotomy, to which certain surgeons were so much addicted, especially when associated with ligature of the external carotid.

Mr. MAYO COLLIER referred in terms of adulation to the diagnostic and operative dexterity of Dr. Macintyre. It was highly important to make an early diagnosis of these cases, because the study of the anatomy

of the tonsil showed that if the disease was far advanced, no operation could do much good. He had himself investigated the relations of the tonsil. There was hardly any organ in the body so compleletely isolated anatomically. He pointed out that the membrane, which he had demontrated and described as the hyo-epiglottic membrane, itself a portion ot the pharyngeal aponeurosis, and a thick membrane lining and backing-up the front of the epiglottis, spread out on either side and lined the cavity of the tonsil. The lymphatics of the tonsil pierced this membrane directly and passed to the deep glands internal to the common carotid artery. Therefore the absence of enlarged glands at the angle of the jaw was no evidence that the glands were not involved. The tonsil, however, was so beautifully situated for the removal of a small portion for microscopical examination that it was desirable in every case to remove a piece and make a thorough examination, when, if thought desirable, the tonsil might be completely enucleated. This was a very easy operation and involved, practically, no danger.

Dr. MACINTYRE, in reply, said he had made several dissections of the neck in cases in which no enlarged glands had been dis covered, but as soon as they got below the skin a large number of enlarged glands were laid bare. In malignant disease of the side of the throat and tongue, malignant disease of the tonsil was often met with as a secondary consequence. They were all aware of the fact that in many cases of enlarged tonsils one was very apt to remove part of the pillars of the fauces with the guillotine, and for that reason he was dissatisfied with the guillotine, which did not allow of complete removal. He had seen cases of apparently complete removal in which recurrence had taken place, which he attributed to the fact that the ends of the *culs-de-sac* were often left.

Dr. WOLFENDEN.—*Sequel of a Case of Sarcoma of the Tonsil.*

This case first came under his care in June, 1889. The tonsil was extirpated as completely as possible with the galvano-cautery snare. Examination of the growth proved it to be a small round-celled sarcoma. Two years later, in 1891, she came a second time complaining of a recurrence of the growth. Twelve months after the operation she said the tonsil had begun to grow again. The pain was not very severe, but was worse on swallowing. The tonsil was smooth, hard, and of a dusky colour. The glands at the angle of the jaw were slightly enlarged. On July 3rd she had several attacks of fainting, and her condition seemed critical. On July 30th the upper part of the tonsil was removed with the cold wire snare with very little loss of blood, and she was soon able to return home. He did not think she would live more than a few months, but to his surprise he heard this summer that she was quite well, better in fact than she had ever been in her life, though it is now four years since she first came under treatment.

The case is interesting inasmuch as it is very rare to find patients with sarcoma of the tonsil surviving more than a year the operation or after the recognition of the disease. It seemed to him particularly desirable that practitioners should be careful to furnish the

subsequent history of their cases, with special reference to whether the operation was undertaken by the mouth or otherwise.

The PRESIDENT asked whether any glands had been removed.

Dr. WOLFENDEN replied in the negative. All had been removed that could be got at with the galvano-cautery snare, from the inside of the mouth. The operation was performed more as a palliative measure, because the glands in the neck were obviously enlarged, and this seemed to class the case as one without hope of benefit from a severe operation.

Mr. WINGRAVE said that if they had reached the stage of ulceration they would naturally expect to find enlarged glands. After ulceration it was possible that the glands might be the seat of a purely inflammatory enlargement as the result of septic irritation. It did, however, occur, though rarely, that glands might become enlarged before ulceration had set in, even in epitheliomata.

Dr. WOLFENDEN pointed out that ulceration was infrequent in sarcoma, yet the glands were usually enlarged. He had seen several cases in which there had been no ulceration.

Mr. COLLIER traversed Mr. Wingrave's statement as to ulceration being a preliminary to enlargement of the glands. He pointed out that in patients with cancer of the breast, long before the ulcerative stage the axillary glands might be enlarged. When ulceration supervened then, of course, in addition to the cancerous infection, there might be further enlargement due to septic irritation.

Mr. WINGRAVE explained that he had not intended to convey that ulceration was absolutely necessary for the production of enlargement of the glands, but he thought that in undoubtedly malignant cases in which no enlarged glands were discoverable their absence was due to the fact that there was no ulceration. He had seen this in cases of early epithelioma of the larynx, the glands enlarging as soon as ulceration had commenced, although containing no epithelial nests, and it was to this form of neoplasm that he particularly referred.

Mr. COLLIER said he remembered two such cases in which the patients came complaining only of enlargement of the glands of the neck outside of the larynx, and a slightly husky voice.

Dr. DUNDAS GRANT.—Further notes of a *Case of Sub-mucous Hæmorrhage into the Vocal Cord, with Neoplasm.*

Many of the fellows will, no doubt, remember my bringing before the Association at the meeting on December 9th of last year a young lady who was subject to recurrent attacks of sudden aphonia followed by hoarseness, taking about a fortnight for gradual subsidence. On the first examination, immediately after the occurrence, the left vocal cord presented the appearance of a large clot, moving up and down with the movements of the cord, but not dislodged by coughing or manipulation. A few days later it was found that the apparent source of origin was a vascular tumour seated at the junction of the anterior and middle thirds of the cord, the ecchymosis tailing off from it in both directions. In course of time the hæmorrhage was almost completely absorbed, leaving the neoplasm in bold relief. For some time I made applications of

chloride of zinc twice or thrice a week, and the recurrence of hæmorrhage was kept in abeyance. I recently removed the growth by means of my safety endo-laryngeal forceps, leaving a very small stump—the base was a broad one—to which I have since applied chloride of zinc. The voice has since become much stronger and clearer both for speaking and singing. The young lady assures me that there is quite a difference in the range, which has extended upwards, whereas in the downward direction it has become more restricted than before.

I have now not seen her for three weeks, but at that time the irregularity and congestion of the cord was quite inconsiderable. I regret that, owing to an error, the growth was so badly preserved that a proper microscopical section could not be made.

Dr. WOLFENDEN observed that the case was one that might easily have been mistaken for what was described as hæmorrhagic laryngitis. He presumed the hæmorrhage was due to the bursting of an angioma.

Dr. GRANT regretted that owing to an error in the preservation of the specimen he was unable to show microscopical sections.

Dr. MILLIGAN.—*A Case of Pachydermia Laryngis.*

Mr. MAYO COLLIER recalled a case described by him as one of flat papilloma occurring in a soldier. Possibly this was a case of pachydermia laryngis. There were large flat growths. The man had had syphilis, the growths were symmetrical, and he attributed them to gummata.

Dr. WOLFENDEN observed that the diagnosis of pachydermia laryngis was one of the things which were most difficult. Many cases formerly described as trachoma were possibly cases of pachydermia. It was not apparently a common disorder in this country.

Dr. DUNDAS GRANT said he had seen what was considered a very typical case, and the enlargement in the region of the vocal process was enormous, like a shirt button, and there was a deep depression on one cord into which the other seemed to fit. He thought he had seen two such cases in hospital practice, but the typical disease was certainly uncommon in London, though it was frequent in Germany. A French writer had described two cases of the kind, curiously enough both occurring in Germans, though this might be a mere coincidence.

Dr. MILLIGAN, in reply, admitted that so long a name was perhaps out of place, but he thought the case tallied so closely with the description in certain German periodicals that it seemed worthy of notice. His patient was certainly younger than those in whom this affection had so far been met with. He had no other name to give to the affection he had just described. The depression which existed was upon the edge rather than on the surface of the swelling.

The PRESIDENT, in taking leave of the fellows, expressed his sense of gratitude to them for the courtesy and kindness with which they had assisted him to discharge his duties as president. He alluded to the importance and wide range of the work done by the Association during his term of office, and said that the work afforded ample evidence—if any were needed—of the success of the Association. He observed that not so many years ago the project to form a special society of laryngo-

logy had been scouted by surgeons generally, but, in spite of opposition, their Association had not only proved highly successful, but a sister society, having more local aims, had also been instituted, which he wished every success.

A discussion on the Clinical and Pathological Constants of Atrophic Rhinitis, introduced by Mr. WYATT WINGRAVE, was postponed owing to the lateness of the hour.

The following microscopical specimens were exhibited by Mr. WYATT WINGRAVE—

(1) Nasal Lupus,
(2) Atrophic Rhinitis.
(3) Suppurative Ethmoiditis.

New instruments were shown by the HON. SECRETARY, from Messrs. Krohne, Mayer and Meltzer, Down, Schall, etc.

BALANCE SHEET FOR THE YEAR ENDING JUNE 24TH, 1893.

Dr. *Cr.*

INCOME.	£	s.	d.	EXPENDITURE.	£	s.	d.
To Balance brought down	43	12	1	By Hire of Rooms	12	12	0
,, Subscriptions	63	0	0	,, Refreshment	4	1	0
				,, Hire of Microscopes	4	0	0
				,, Drawings and Blocks	3	2	0
				,, Printing and Stationery	8	3	6
				,, Secretarial Assistance	8	8	0
				,, Petty Cash, Postage, &c.	8	19	11
				,, Bankers' Charges on Scotch and Irish Drafts	0	4	6
				,, Bankers' Commission	1	1	0
	£106	12	1		£50	11	11
				Balance at Bank, June 24th, 1893	56	0	2
					£106	12	1
Balance brought down	£56	0	2				

Examined and found correct,

GEO. STOKER,
LENNOX BROWNE,
G. CHARLES WILKIN, } *Auditors.*

June 30th, 1893. WYATT WINGRAVE, *Hon. Sec.*

THE FIRST GENERAL MEETING of the SIXTH SESSION

Was held on Friday, December 8th, 1893, at the Rooms of the Medical Society of London.

The *President*, Dr. JOHN MACINTYRE (Glasgow), was in the Chair.

The Minutes of the last Meeting having been read and confirmed, the following gentlemen were elected Fellows of the Association :—

Dr. ALEXANDER ST. GEORGE REID.
Dr. HAROLD MUIR EVANS.
Dr. CECIL NEIL GRIFFITHS.
Dr. E. B. WAGGETT.
Dr. P. HENDERSON ABERCROMBIE.
Dr. J. ORLANDO ORR.

Cases of Necrosing Ethmoiditis.

Dr. WOAKES showed four patients suffering from necrosing ethmoiditis.

Mr. WYATT WINGRAVE stated that he had been interested in seeing these cases, and testified that in three of them there was distinct evidence of bare bone, which might or might not be necrotic.

Dr. W. MCNEILL WHISTLER showed a *Case of Chronic Laryngeal Disease of Eighteen Years' Duration.*

The patient, who is now fifty-six years old, came to Dr. Whistler's clinic at the London Throat Hospital in April, 1887, complaining of intense lancinating pain—intermittent in character, though frequently recurring—in the "lower part of his throat," as he described it, and confined to the left side. In addition to these spasmodic attacks there had been for several weeks a constant soreness in the laryngeal region. There was also pain in swallowing, with occasional slight choking fits when taking food. There was no œsophageal stricture.

Local signs.—In the pharynx there was nothing to be noted beyond slight surface congestion. Laryngoscopic examination showed a very marked redness, with swelling on the under surface of the epiglottis, extending from the left side of the epiglottic cushion to the left ary-epiglottic fold and upper portion of the left ventricular band. The hyperæmia and the swelling were strikingly confined to the left of the median line. There was some swelling over the left arytenoid, but no impaired movement of the crico-arytenoid articulation. There was no growth or ulceration. Just above the left upper border of the ala of the thyroid cartilage there was a limited area of thickening, appreciable on palpation, but not forming any very prominent swelling. The man was

suffering from sciatica at the same time, with great pain in the leg and lameness.

With the exception of occasional rheumatic attacks, he said he had always enjoyed good health, and he looked a healthy and strong man.

There was no history of syphilis, or any evidence of pulmonary disease. He had served for many years as a policeman. He had never had any blow or other injury to the neck. He was first attacked with neuralgic pain in the throat in 1875. The seizure was sudden, and so severe that he had to be relieved from duty. He had never before suffered from any throat trouble. Under treatment this attack passed off quickly, and from that time he remained well until 1881, when he went to the Golden Square Throat Hospital with a relapse of the original symptoms.

Under treatment by sedative inhalations and local applications to the larynx he again obtained complete relief, which lasted until 1886, when he returned to that hospital. Judging by the patient's statement, the local signs and the symptoms appear to have then been very similar to those noted by Dr. Whistler subsequently, but the man stated that the external swelling in the sub-hyoid region was at that time larger. He said that this was punctured, and the laryngeal swelling was lanced, but with a negative result, no evidence of suppuration being obtained.

Dr. Whistler saw the patient during an attack which came on while he was being examined at his first attendance, and also on other occasions. They always were of very abrupt onset, and of short duration. The symptoms were those of acute cramp, accompanied by intense pain, radiating from the tongue to the lower part of the pharynx, the larynx, and to the hyoid region. During the seizure the patient could not speak, as any movement of the tongue increased the pain. When speech was regained the voice was hoarse ; but there never was any dyspnœa. The laryngeal signs could scarcely account for the severity of the symptoms. Dr. Whistler said that he had some time before this seen very similar symptoms in a gentleman who was a great sufferer from gout. In that case the pain affected more especially the root of the tongue, every movement of which organ was most agonizing to him. The seizure was equally abrupt, and could not be accounted for by any local signs. The larynx was not implicated. The symptoms quickly yielded to alkalies, iodide of potassium, etc.

Arguing from this, and taking into consideration the markedly rheumatic diathesis of the present patient, Dr. Whistler was led to infer that both cases were of kindred nature, and that the inflammatory signs in the larynx were due to rheumatic or gouty perichondritis. He was put upon the treatment just mentioned, which gave him immediate relief. He subsequently took effervescing salicylate of lithia, and was soon free from all pain and spasm. It was interesting to note that the sciatica and the throat symptoms yielded simultaneously to this treatment. The patient remained under observation for several months. The redness and swelling in the larynx persisted for some time, but with local applications, added to the general treatment, there was very little trace of these remaining when he ceased attending.

He came once more in the spring of 1893. The character of this further relapse was the same as the previous attacks, and the laryngoscopic appearances were identical with those already described. The pain, however, was more persistent, and his general condition was decidedly worse. The patient had for some time been losing weight, and was much weaker. About midsummer he had (according to his statement, for he was never seen by Dr. Whistler during one of the attacks he then described) some seizures, seemingly of an epileptiform nature, simulating those of "petit mal"; the painful spasm over the area already described culminated in a species of aura, with vertigo and loss of consciousness of his surroundings, from which, after a few minutes, he recovered. He had never had any convulsion, and it was an open question whether these attacks were not really due to syncope, induced by pain. They were relieved by bromide of potassium, but this might result from its controlling the localized cramp. They only occurred a few times, and have not recurred. From the middle of August Dr. Whistler had not seen this case until the beginning of November. During this period much more extended signs of infiltration had developed in the larynx. There is now a diffuse growth, involving the under-surface of the epiglottis and ary-epiglottic fold on the left side. The movements of the cords are not impaired, and they are normal in appearance. The left one is hidden partially in front by the overlying ventricular band, excepting during phonation. The epiglottis is depressed by the rigidity of the hypertrophied ary-epiglottic fold. The surface over this region is roughened, but there is no separate and distinct outgrowth, and no ulceration. The patient, for some weeks now, has not complained of pain, and is fairy comfortable. In the left sub-hyoid region there is a distinct and very prominent swelling. There is no sense of fluctuation in it. It is apparently a glandular enlargement. Dr. Whistler thought that this more recent laryngeal growth appeared to be malignant. He brought the case before the meeting, hoping to get some expression of opinion upon it.

Mr. LENNOX BROWNE related a *Case of Paroxysmal Sneezing.*

On August 11th, 1893, I was consulted by Mrs. X., aged twenty-nine years. She had been married for seven years, with a family of three children, the youngest being four years old. Her family and personal history were good, both mother and father being alive and well; and her only sister, who is younger than herself, being married and in good health. When a child the patient suffered from "weak eyes" and "red eyelids," but she had not been subject to either sore throat or other form of respiratory trouble.

The present illness dated four years ago (March, 1889), and was manifested during her third pregnancy in the shape of paroxysms of sneezing, which occurred twice or thrice a day, the patient sneezing a dozen or more times at each attack. These were most frequent in the early morning, and were accompanied by coryza. They continued to increase in severity, and on the birth of her child did not subside for more than a few days. They appeared to be uninfluenced by change of

weather, climate or other conditions, though perhaps damp seemed in some respects to affect the trouble for the worse. Exacerbations also occurred when at the seaside, during the menstrual period, and after sexual intercourse.

Concurrently the voice was affected, and became weak and uncertain in tone. The lady also complained that her memory had been very faulty for the last few months, and would fail her even when conversing on household matters a few minutes after an order had been given.

She suffered from what she termed "peritonitis" after her last confinement, and had been under treatment for uterine trouble, from which she had derived great benefit.

She had also been treated for her sneezing by several physicians—the first on the view that it was due to neuralgia, from which complaint she had, however, never suffered; by the second to dyspepsia, though her digestion had always been fairly good; and by a third to nervous debility, although there were no other symptoms of this condition.

Previous to her visit to me the nasal cavities had not been examined.

On August 11th the following conditions were noted:—(1) The left middle turbinal body is swollen, pale in colour, and œdematous; (2) the right one is over moist, pale, but not swollen; (3) there is moderate hypertrophy of the pharyngeal tonsil (adenoids); (4) the veins at the base of the tongue are varicose, there is some slight hypertrophy of the lingual tonsil, and the uvula is rather relaxed.

Under nitrous oxide gas the adenoid vegetations were removed, with the result that the patient was able to breathe freely through her nose, which hitherto had been only possible to a slight extent. The attacks of sneezing were at once diminished, and four days later the patient volunteered the statement that her memory was decidedly better since the operation—in fact, it was only on her third visit to me that I learned that this faculty had been at all impaired.

On August 23rd chromic acid was applied to the left swollen middle turbinal, which was previously cocainized, and on the 26th the spur on the right side of the septum was removed by a saw.

On September 2nd the patient left for Ilkley Spa, in Yorkshire. As a result of a cold taken on the journey, she sneezed slightly at early morning for three days, but was much relieved by use of the tablets for rhinitis, composed of camphor, quinine and atropin.

On September 13th the patient wrote that she had been free from paroxysms for six days, but on the appearance of the catamenia sneezing again occurred—one short attack each morning. No further recurrence was experienced, and the next menstrual period passed without relapse.

On the patient's return from Yorkshire, where she remained a month, the only symptom complained of was a certain sense of fulness, as of the presence of a foreign body in the throat, and, as the varicose veins and lingual hypertrophy were just as prominent as on her first visit, this condition was treated by the galvano-cautery on October 3rd.

After this she steadily improved, and, on seeing her on December 6th, she expressed herself as feeling better in her general health than she had done since the date of her marriage.

The clinical point of interest in this case is the relation of cause and effect between the nose and the organs of generation.

It seems pretty clear that the married state was the first exciting cause of the nasal irritation, and it is even probable, seeing how free the patient had been from throat trouble all her life previously, that the hypertrophy of the pharyngeal tonsil dated from the same epoch.

The moral is sufficiently obvious.

Physicians have, I believe, now ceased to charge throat specialists with failing to examine the patient's chest, or other distant organs. It might be to the advantage of the patient, and, at least, to their own credit, if in such cases as this the general physicians would examine into the local sources before giving a diagnosis of generalization.

Foreign Body removed from the Larynx by Thyrotomy without a Preliminary Tracheotomy.

Mr. F. MARSH (Birmingham) showed a piece of bone, irregular in shape, and measuring about seven-eighths of an inch by three-quarters of an inch, which he had removed by thyrotomy from the larynx of a man aged thirty-three, who gave the following history of his illness :—

Twelve months ago, without any apparent cause, his throat felt sore, and he noticed that his neck was somewhat swollen on either side of the larynx. At the same time a troublesome cough commenced, and his breath was short after exertion. The pain and swelling disappeared in about a month, but the other symptoms persisted. He had been under treatment most of the time for these symptoms, which were generally put down to "asthma," but he had not obtained any relief. He then came under Mr. Marsh's care at the Birmingham and Midland Ear and Throat Hospital. On laryngoscopic examination a growth was seen in the larynx below the true cords. It was somewhat ovoid in shape, and almost filled up the lumen of the larynx. In appearance it resembled a papilloma, but was whiter in colour, and the surface looked embossed rather than papilliform. Taking the size and position of the growth into consideration, thyrotomy was advised in preference to any intra-laryngeal method of operation. To this the patient consented, and the following operation was performed. Under general anæsthesia an incision was made in the middle line, extending from the upper margin of the thyroid cartilage nearly to the sternum, and the structures were divided down to the thyroid cartilage, the crico-thyroid membrane, the cricoid cartilage, and the upper rings of the trachea, in case tracheotomy should become necessary on account of troublesome hæmorrhage, or threatened asphyxia from any cause.

All bleeding points having been secured, the lower end of the operating table was raised so that any blood entering the air-passages would gravitate into the pharynx rather than into the trachea and bronchi. The crico-thyroid membrane and *lower half* of the thyroid cartilage were now divided in the middle line, and the sides of the cartilage drawn outwards with blunt hooks. A piece of bone was then seen imbedded in granulation tissue. It was easily removed with forceps, and the bleeding bases of the granulations were rubbed over with pure carbolic

acid. The upper part of the thyroid cartilage not having been divided, there was no difficulty in accurately approximating the cut edges with chromic catgut suture. The cut edges of the crico-thyroid membrane and the fascia over it were carefully sutured together with catgut sutures, and the wound was closed. At no period of the operation was there the slightest difficulty, either from dyspnœa or from blood getting into the trachea.

The patient made a good recovery, and his voice subsequently was as clear as before. When the piece of bone was shown to him he remembered that about the time of the onset of the symptoms he had, when deeply under the influence of alcohol, eaten some beefsteak, and he had no doubt that the accident occurred then, although he was unconscious of it.

The points of interest in the case were (1) the diagnosis and (2) the method of removal. The only diagnosis possible, both from the history and laryngoscopic examination, was that of a neoplasm, which was probably of a fibrous or papillomatous nature. The long history, the absence of ulceration, or implication of adjoining tissues or lymphatic glands, were all confirmatory of this view.

With regard to the method of operation, Mr. Marsh expressed the opinion that tracheotomy was not always a necessary preliminary to thyrotomy, and that in a certain group of cases this routine practice might safely and w th advantage be abandoned.

In this group he would include impacted foreign bodies in the lower part of the larynx away from the immediate vicinity of the glottis, and innocent neoplasms in the same locality, which from their situation were inaccessible to, or from their size or number were not suitable for, intra-laryngeal removal.

Mr. LENNOX BROWNE recalled a specimen of sheep's bone, shown by Sir Morell Mackenzie twenty-five years ago, and removed by him from a man's throat with a history very like that of the author's case. He thought the author was very fortunate in not having been constrained to perform tracheotomy. When situated near the cords foreign bodies were very apt to be expelled with the rush of air which accompanied the making of the opening into the larynx, and so a further operation such as thyrotomy was obviated. In spite of the success in this case, he doubted whether it was wise to teach that tracheotomy preliminary to thyrotomy should be dispensed with ; for as one never knew what was going to happen in these cases it was well to take all precautions to keep the windpipe clear.

Dr. WHISTLER remembered the case referred to by Mr. Browne. He related a case of his own. The patient had been to a general hospital, complaining of great irritation in the larynx, with cough and paroxysmal dyspnœa, which she ascribed to a piece of bone in the air-passages. Although no laryngoscopic examination was made, she was told that was not the case, though she affirmed that it had been there five weeks. When the patient came to him, he looked into the larynx, and saw a white thread-like line, which he took to be a fish-bone. There was great thickening of the inter-arytenoid fold and the cushion of the epiglottis, into which the foreign body dipped deeply. It would not yield to traction

with forceps, so he took her into the hospital and tried the effect of sedative applications for a time. When removed at a later date, the foreign body was found to be a piece of fish bone, one inch square, of which only one of the free edges had been presented to view in the mirror.

Sir PHILIP C. SMYLY mentioned a somewhat similar case which had come under his observation last winter, in which a piece of beef bone had lodged below the vocal cords for five weeks. He had done a preliminary tracheotomy, and four days later he had managed to remove it by the aid of Mackenzie's forceps, and he finally succeeded in removing, with forceps, a spiculum of mutton bone one inch square, which had been wedged in the larynx and trachea.

Mr. MARSH, in reply, said of course he did not mean to imply or to lay it down as a universal rule that preliminary tracheotomy should never be performed, but when they had to do with an impacted foreign body or innocent tumour he thought thyrotomy might be performed without having recourse thereto. The wound could be closed, and the patient would be well in a day or two. He had made a long incision, exposing the trachea, so that he could have performed tracheotomy at a moment's notice had it been necessary. The position of the patient was important—the body should be inclined, with the head down. In this case there was not the slightest difficulty from hæmorrhage. He thought the operation of thyrotomy would become more popular if it were recognized that the preliminary tracheotomy could be safely dispensed with. The diagnosis made was that of papilloma. There was nothing in the history or appearances to suggest the presence of a foreign body.

Mr. LENNOX BROWNE asked how they were to know beforehand whether or not they had to do with an innocent growth. The case reported by Dr. Whistler was very instructive on this point. On looking down the throat it was like looking into a tunnel, and one only saw the engine advancing, but could not tell how many carriages there were behind. He remembered one such case in which apparently only a small growth was in the larynx, but on division of the thyroid cartilage the whole of the left side of the larynx was seen to be one mass of malignant disease. The author said that the foreign body was covered with granulation tissue, but how could he tell that it was not a growth? In fact, that was his diagnosis. And how could he tell until it was removed whether it was innocent or malignant?

Dr. STOKER observed that the question turned upon whether or not it was desirable or necessary to perform the preliminary tracheotomy. If they performed thyrotomy and found a malignant growth, there was nothing to prevent them doing tracheotomy, but to do the tracheotomy first and the thyrotomy afterwards was to run the risk of finding that the former might easily have been dispensed with.

Mr. MAYO COLLIER agreed with Mr. Lennox Browne that on general surgical principles it was wiser to perform preliminary tracheotomy. The author had challenged them to show what were the complications that were likely to arise in thyrotomy without tracheotomy, but no one doubted that there were numerous complications and sequelæ which might

[illegible] removal of a [illegible] growth. [illegible] which [illegible] had been [illegible] of [illegible] operation that [illegible] with [illegible] tracheotomy was done and the passage to the lungs secured the foreign body might be discovered and removed. Tracheotomy was after all a very [illegible] operation, with [illegible] security and success. If they thought that could remove the piece of growth easily, then perhaps the tracheotomy might be done after or afterwards; results not so general. [illegible] instances it was generally desirable to remove foreign bodies [illegible] by tracheotomy, by securing a safe way to the trachea and lungs, and then they had a free hand. Moreover tracheotomy, by giving the parts [illegible] rest, facilitated greatly union between the opposite surfaces of the wound.

Mr. Marsh further remarked that he did not see through the rings of the trachea, but only [illegible] he was able to see through them if necessary. If he had had any difficulty from the growth being more extensive than he had anticipated, there he could, however, have performed tracheotomy.

Mr. Mayo Collier showed *Photographs of a Man* who exhibited an extraordinary and unusual unique deformity of the face, due to *Hypertrophy. Cancer of the Nose and Forehead.* He remarked that the ravages of lupus and syphilis and other combined could not have produced a greater deformity. The patient was twenty-two years of age. There was in part in the growth, which had been increasing gradually. He had performed a plastic operation, and the growth proved to be a fibro-lipoma.

Case of Pseudo-Stricture of Œsophagus with Cancer of Liver.

Mr. Mayo Collier also related the case of an actor who had suffered from difficulty of swallowing for three months. His age was about forty-three. He had never had syphilis, and had enjoyed fairly good health. He consulted various medical men, but no diagnosis was ventured on, though iodide of potassium had been given on the chance of its being syphilis, but without result. He was admitted to a general hospital, and there his case was examined, and the disease diagnosed to be malignant stricture of the œsophagus, and gastrotomy advised. As, however, the operation would have had to be performed by the surgeon's junior, the patient left the hospital and went to another, where similar advice was given. He still hesitated to undergo the operation, but finally came to the North-West London Hospital with the intention of submitting to the operation. On admission he appeared an aged, emaciated man, but this was not surprising considering that the patient had not taken any food by the œsophagus for the preceding three weeks. He could, in fact, hardly speak, so weak was he. Mr. Collier gave him some water to drink, and was struck by the fact that the attempt to swallow was quite futile. The liquid did not go down, to be returned some time after, but was rejected from the first. That made him doubtful as to the diagnosis, and he took a feeding tube and succeeded in passing it

without difficulty into the stomach after a little gentle, persistent pressure. Some egg and brandy in milk was by this means introduced into the stomach. This treatment was continued twice in the twenty-four hours for eight or nine days, and the patient somewhat improved. Then a low form of pneumonia set in, and he died. He had examined his chest in the first instance, but there was no evidence of a growth in the lungs or in the mediastina, but in the abdomen a large tumour of the liver could easily be made out, reaching low down. *Post-mortem* he had removed the pharynx, the larynx, œsophagus, and the upper portion of the stomach, but there was not the smallest sign of any portion of involvement of the coats. Death was due to a large cancer of the liver, which was the only disease present. He pointed out that the patient had been seen and examined by twelve or fifteen medical men, and the disease was diagnosed as cancer of the œsophagus. In view of the peculiar circumstances, he looked upon this as an especially interesting and instructive case; one, moreover, that ought to make them look twice before affirming the diagnosis of cancer of the œsophagus in the absence of unequivocal evidence. He had looked over the record of cases of cancer of the liver, and in four of them, at any rate, it was on record that the disease was associated with reflex stricture of the œsophagus. Mr. Treves had told him that three cases had been handed over to him for operation, in which he proved to his satisfaction that there was no disease of the œsophagus, but evident disease of the liver.

Mr. LODGE, junior, asked how the author would make the differential diagnosis between that condition and paralysis of the œsophagus.

Mr. COLLIER replied that simple paralysis of the œsophagus was a disease unknown in medicine. There was indeed glosso-labio-pharyngeal paralysis, in which the paralysis was located in the upper pharyngeal muscles, but in his case the impediment to swallowing was distinctly in the upper part of the œsophagus, the pharyngeal muscles driving the food down on the closed œsophagus, not accumulating in the cavity of the pharynx, to be afterwards expelled as in glosso-labio-pharyngeal palsy.

Dr. WHISTLER referred to the case of a lady, from Australia, who for a long time suffered from dysphagia, associated with marked wasting. She was past middle age. She came to him with the idea that it might be commencing malignant disease, but he was unable to find any evidence thereof. He, however, noticed the very symptom alluded to by the author—viz., the prompt rejection of food from the pharyngeal orifice of the œsophagus, showing that the obstruction was quite at the orifice. The dysphagia had come on at the menopause at a time when she was suffering from considerable ovarian and uterine trouble. He placed her under chloroform, and passed even the largest bougies into the stomach without difficulty. He also referred to a man, a hard drinker, with an enlarged liver and spasmodic stricture of the œsophagus. The passing of bougies was not followed by improvement of the stricture. This was cured by treating the hepatic trouble, together with rest in bed, and a milk diet.

Mr. LENNOX BROWNE pointed out that the cases associated with

ovarian disorder and alcoholism did not belong to the same category as that related by Mr. Collier. He asked the author to kindly detail, for the benefit of the Fellows, the exact anatomical explanation of the reflex.

Mr. COLLIER replied that there was a very definite and distinct anatomical explanation. When they remembered that the pneumo-gastric nerve passed down on each side of the œsophagus, gave large branches to it, and to the œsophageal plexus, and also gave large branches to the vaso-motor system of the liver, it was easy to understand that there was a distinct connection between the nervous supply to the liver and to the œsophagus. One might indeed expect that any serious disturbance in the liver would bring about a corresponding disturbance of innervation, not only in the œsophagus, but also in the pharynx. He pointed out, according to Mr. Lennox Browne's own work, affections of the pharynx and larynx were always made worse by congestion of the liver, to obviate which that author rightly recommended in post-nasal catarrh that the portal system should be carefully kept open.

Dr. GEO. STOKER showed *A Large Tumour, with Appendages, removed from the Post-Nasal Spaces and Left Nostril* of a patient whom he had shown at the last meeting of the Association, prior to operation. He explained how he had prevented hæmorrhage by passing a loop of whip-cord through the nostril, and guiding it round the pedicle by the aid of the finger introduced through the mouth. This loop was tightened by twisting. The wire of a snare was similarly adjusted, and the growth removed without any marked bleeding.

Mr. LENNOX BROWNE having asked the question "What was the result of the histological examination of the growth?" and being informed that it was a fibroma, congratulated Dr. Stoker on what appeared an unique success, for he had never heard before of so complete an enucleation at one operation, and with so little hæmorrhage. The point of attachment of the growth was very limited, and not the usual broad base which generally characterized this class of naso-pharyngeal growths. Possibly the preliminary ligature might have been of more value in preventing the hæmorrhage than was modestly claimed by Dr. Stoker.

Mr. ED. LAW doubted the possibility of effecting tightness of the ligature to a useful extent by the method employed by Mr. Stoker.

The PRESIDENT then delivered his Address.

Gentlemen,—My first duty is to return my sincere thanks to you for the honour conferred upon me by electing me President of this Association. Its work has prospered in the past, as might have been expected, and I naturally feel the responsibility of being called upon to do what my predecessors have done. All I can promise is to do what lies in my power to advance the interests of the Association during my term of office.

I feel you will agree in saying that the gentleman who has just preceded me deserves our warmest thanks for the very able manner in which he discharged the duties of his office. Neither time, nor distance, nor work, was allowed to interfere with whatever he was called upon to

perform. It is only fair to say that the prosperity which attended us during the past year is in no small measure due to the abilities and enthusiasm displayed by Dr. Sandford.

It was my privilege to attend the meetings called to discuss the advisability of founding an association for the study of laryngology in this country, and, as one of the original members, I might safely say that we are more than ever convinced of the wisdom of so doing. I am sure each has been benefited, but, setting aside the personal aspect of the question, the Association has done something to promote the study and advancement of this special branch of medicine. The result might have been anticipated, for, while it may be stated with truth that at no previous time have greater advances been made in general surgery and medicine than during the past twenty years, it may also be said that this is specially true of the study of diseases of the upper respiratory tract. Indeed, in no branch of science is it more difficult to grasp the advances at present being made. A glance at our text-books will show how difficult it is for any author to convey an idea of the enormous literature at our command; new methods of observation and treatment are constantly being recorded, and many pathological and etiological features brought to light. It would indeed have been a matter for regret if individual workers should have been deprived of the encouragement, criticism, and aid in research, which can only be obtained by being brought in contact with each other in such an Association as this. Moreover, a glance at the reports of the good work being done in similar associations in many of the European states, and on the American continent, would convince anyone of the wisdom of founding a laryngological association in our own country. It is not my intention, however, to allude to any question of a polemical nature; by our work, and that alone, we shall be known; by it we must, and desire to be judged, not only by the laity, but by our professional brethren. Hence it becomes my privilege to offer a hearty word of congratulation and good wishes to all engaged in such work, whether in this or any other association at home or abroad. We have benefited to a very large extent by their work; we trust they may, to some extent, by ours. And what is true of our history in the past is equally so of last year. Whether looked upon from the literary or demonstrative points of view, the meetings held in 1892-3 will compare favourably with those of former years. Our discussions have been of great interest; the criticisms honest and sincere; we have had many excellent papers, and the clinical work and demonstrations have shown that the field of research has not been neglected. We are stronger in numbers; our enthusiasm is greater; and the results ought to be sufficiently encouraging to stimulate us to even greater efforts in the future. These results have not been obtained without great care and interest on the part of the Council, and our best thanks are due to those gentlemen who have done such good work. A large share of this has fallen to our secretary, Mr. Wyatt Wingrave, and it is only right that we should acknowledge our indebtedness to him for the able and conscientious way in which he has performed his duties.

Our best thanks are also due to the gentlemen who contributed so

much to the work of last year by reading papers, and giving clinical and other demonstrations.

The annual meeting affords an opportunity of reviewing something in addition to the history of our Association, and this is probably the object of the usual presidential address. In such a branch of science as ours there are many subjects at present little understood, and a reference to what has been done in one or other of these, with suggestions for what may be expected in the future, offers a suitable reason for the choice of a subject. I have chosen as the subject of this address a consideration of a branch which has not yet been fully investigated, but to which we have already paid some attention, viz., "The Etiology of the Diseases of the Nose and Throat," and that with special reference to the influence it has had, and in the future may have, upon the classification and treatment of affections in these regions.

During the past two or three years I have given some demonstrations upon this subject, and should be sorry to show any tendency to exaggerate a study which has proved of great interest to myself, or to minimize other branches of our work. On the contrary, I would emphasize the fact that it is the duty of each Fellow to bring before the Association new facts in any field which his experience has taught him. Some prefer to devote a portion of their time to the improvement of instruments; others, to the evidence of disease as studied at the bedside; many, to therapeutic advances. Each and all of these have their value in a science which is as yet incomplete, but special reference ought to be paid to therapeutics, because we must never forget that it is our first and highest duty to relieve the sufferings of those who are entrusted to our care. While it may, therefore, be useful for future advances that etiological and pathological subjects should receive our best attention, nevertheless we are daily called upon to treat our patients with the means at our disposal, and in the light of our present knowledge. What the study of etiology may be for us we know not; much is expected of it—all will not be realized—but that its influence has been great no one doubts, and that it is likely to prove more so in the future I trust to be able to demonstrate. Some time ago, when discussing this question with an able exponent of our special work, he said it was difficult to do much in this direction without including a good deal of general pathology and etiology. This may be true, but why should we not bring the facts of general pathology and etiology to bear upon our work in as far as they are required to throw light upon it? Some have gone to the other extreme and attempted to set up a special pathology, and they have naturally failed to establish it. But the history of clinical medicine has shown that the laryngoscope has not only helped those engaged in our special branch, but it has thrown much light upon the study of general medicine and surgery. It is just possible that the study of etiology in special regions may, in the future, aid those engaged in the general study of medicine, and probably also, in research, which is for the most part carried on in the laboratory.

No sooner have we engaged upon this study than we are beset with difficulties, and the first is to attempt to give some clear indication of

what is meant. It might be done in the following way: Given a patient suffering from deviation of the normal structure and function, our object is to attempt to discover what changes have occurred to produce that series of objective or subjective phenomena, which when grouped together constitute what we know as disease, malaise, or want of ease. The boundary line between the physiological and the pathological is by no means well defined; the pathological would, indeed, often appear to be but an exaggeration of the normal conditions of life. If the changes brought about are sufficient to be recognized by physical diagnosis, they are made known to us, or our patient, or both, by a series of signs. The patient is made conscious of these by a series of subjective phenomena, but the objective phenomena may be of such a minute nature as to be beyond observation, and so constitute what is known as a functional disorder.

PAST AND PRESENT STUDY OF ETIOLOGY.

The presence of disease infers the existence of a cause or causes; that these have been brought in contact with the patient; that the tissues were incapable of resisting the invasion of the new force or forces. Again, we have in most cases to assume a deficiency in resistance of the tissues after the introduction of the causes; that certain conditions were present favourable to the existence of the new force—in other words, that more than *a* cause was at work; and our difficulties increase still further when we attempt to discover the exact influence exercised by each factor. Indeed, until recently it was quite impossible to obtain anything like definite knowledge of many of the most active causes of disease. I refer more particularly to bacteriological causes, which have attracted so much attention of late. Lastly, to explain the results we must discover how the causes acted so as to produce the disease. A study of etiology, therefore, involves a great deal more than at first sight appears. Some probably place too much weight upon one set of causes; for example, etiology did not begin, nor will it end, with the study of bacteriology, because, as I have said, the cause as a rule proves upon investigation not to be simple but complex. We need not only a special influence to produce a disease, but a whole series of conditions which modify or influence the true cause in the production of it. That is not all, because once the disease has been set up in the body it may become the cause of secondary pathological conditions, these again of tertiary, and so on. For example, an old cicatrix will produce dilatation of the pharynx above it; catarrh leads to stenosis; tubercle and malignant disease to perichrondritis and caries; one of the exanthemata may set up inflammation of the membrane of the nostrils, that may be followed by hypertrophy, the hypertrophy by stenosis, the stenosis by irritation of the naso-pharynx, and this by mischief in the ear, or it may even be infective disease of the brain and cord.

CONSIDERATION OF THE CAUSES.

A reference to our classical text-books overwhelms one with the multitude of causes assumed to be at work in the production of disease in the nose and throat, and a careful analysis will show how difficult it is

to grasp the influence exercised by each. Allow me to illustrate the difficulties by a few examples. In the production of catarrh, age, sex and occupation are commonly quoted as factors, but occupation often infers age and sex. Again, a particular occupation may induce a certain disease, but the same malady will not affect other persons so engaged, and others not following that occupation may suffer from it. Disease is often traced to air, water, and food, but frequently these are merely vehicles for the transmission of the cause, although in certain instances disease may arise from intrinsic defects in one or all of these. Again, we have change of temperature—say, cold; but cold often means, not absolute cold, but the association of other conditions, such as damp air, with movement in the atmosphere. Such terms as "poisoning" and "weak constitutions" are too indefinite to grasp; hereditary and congenital causes are constantly being quoted and often convey as little meaning. These latter, however, do not offer the greatest difficulty, because, if we could trace the production of disease in individuals, an explanation of its transmission would, in all probability, be comparatively easy. In the past, few diseases could be traced, and, with the exception of foreign bodies, injuries, absence of necessary elements in food, or the administration of deleterious material, the exact causes of the vast majority were wholly unknown, unless we include such general terms as gout, rheumatism, fevers, etc. Without doubt, the greatest aid to the study of etiology has been obtained from bacteriological researches. Moreover, this study promises to throw a great deal of light upon many of the factors quoted above, and whose influence could not previously be understood. For example, the study of the life-history of these organisms has revealed much about the conditions necessary for their existence; all require pabulum and a certain temperature; some require light, some heat, others air; and nearly all are influenced by the presence of other substances, which may be of an inorganic or organic nature. Thus antiseptics, on the one hand, will arrest development, if in sufficient strength and properly applied; on the other hand, the presence of certain substances facilitates their growth. The introduction of the tetanus bacillus in some animals does little harm until an organism such as the bacillus proteus be injected with it. Further, apparently harmless organisms, introduced with other apparently harmless organisms, will produce disease. The study, therefore, of the life-history of these organisms will, in all probability, throw light upon the exact influence produced by such agents as atmosphere, moisture, season, and to what extent such articles as food, water, and air are responsible for the production of disease. With a view of facilitating this study in our special department, I have added at page 64 a fuller list than in any of my previous demonstrations, and I have, for the same object, brought a series of microscopic drawings and photographs before you. For example, we now know a great deal about the causes which are mainly at work in the production of inflammation, suppuration, erysipelas, lupus, tubercle, leprosy, diphtheria, and typhoid. Much has been done, more is required, because no one working in our special department can forget how many affections of the upper respiratory tract are due to con-

Fig. 1. Sputum Koch's bacillus

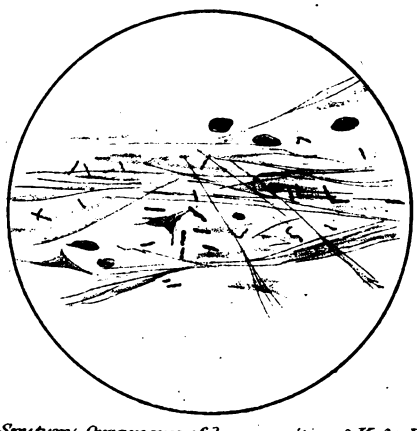

Fig. 2. Sputum. Organasms of decomposition & Koch's Bacillus

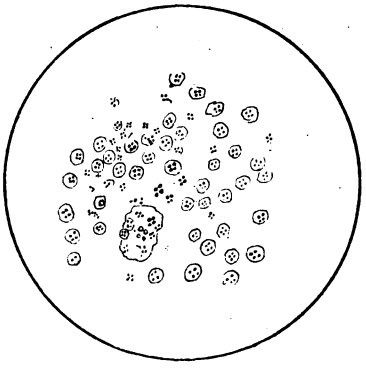

Fig. 3. Micrococcus tetragenus Case of Phthisis laryngea

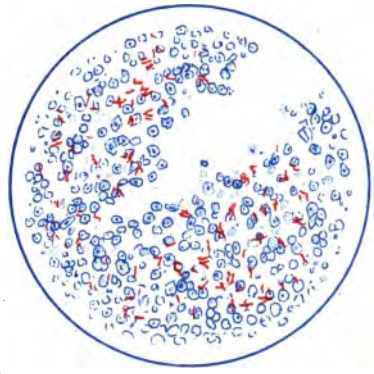

Fig. 4. Interary-tenoid membranes. Scraping during life.

Fig 5. Lung. Koch's bacillus.

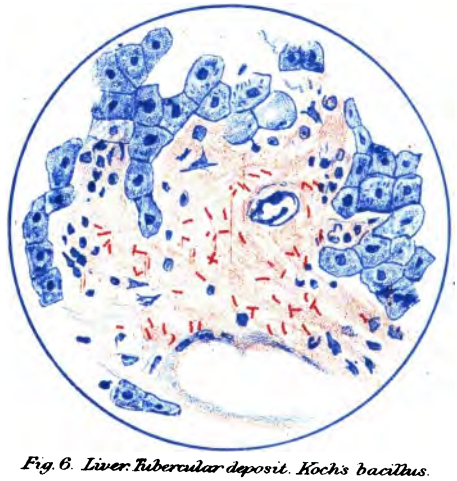

Fig. 6. Liver. Tubercular deposit. Koch's bacillus.

stitutional affections, such as gout, rheumatism, and fevers, particularly the exanthemata, and, I need hardly add, malignant disease.

MEANS OF BRINGING IN CONTACT.

In a certain number of cases the causes already exist within the individual—they may be hereditary or acquired. For example, micro-organisms often lie latent in diseased teeth, in depressions in the tonsils, or the accessory sinuses, and only require conditions necessary for their development to produce disease. It has been stated that the buccal secretion is antiseptic in nature, but a careful examination of the contents will show how difficult it is to establish this proposition, for in health, even, we find many pathogenic organisms. In the accompanying figure will be seen a variety of organisms found in an apparently healthy mouth. Some of these, after cultivation and injection, produced suppuration in animals. In other instances, however, the causes are brought from without, and it is necessary to trace the channels by which they come. For the most part they are due to contact with others infected, or to such agents as air, water, food, and clothing.

THE OVERCOMING OF THE RESISTANCE OF THE TISSUES.

In some instances this is easily enough explained, for injuries, administration of drugs, pressure upon nerves, absence of necessary elements in food, generally produce results which are clearly enough to be traced to their causes. That micro-organisms may pass from the superficial to the deeper layers of the coverings cannot be doubted; this can be seen from the next drawings given. In the first the mycelial spores will be seen passing through the epithelial structures of the mucous membrane of the nose weakened by the invasion of sarcomatous disease; and in the second drawing the spores will be seen developing within the tissues. That great protection exists in the nose and throat one cannot doubt. We have the air as it passes through the nostrils sifted to an extent by the vibrissæ; the structures within the cavities slope downwards and backwards, so that the secretions readily pass into the alimentary tract, aided by the action of the cilia; there is abundant secretion secreted from the epithelial cells, each one of which may be looked

upon as a gland capable of taking matters on the one hand from blood-vessels, and, on the other, passing it on to the surface of the membrane. Moreover, the lymphoid and connective tissues of the mucous membranes offer still further resistance; the vascular supply is great, and the rich nerve supply governing the blood-vessels and turbinated bodies is not surpassed in any other mucous surface. Consequently, obstruction or deviation from the normal anatomical conditions of the passages, weakness in the individual cells, or the nervous and vascular arrangements, and that in local or constitutional affections, must lessen the protection. Abrasions are most dangerous of all, especially if recent, and these often occur at the points of weakest resistance, say in the middle line of the lower lip, angles of the mouth, margin of the epiglottis, and the region of the fauces—in other words, where, from the study of development, we know parts originally distinct and separate have become united. Again, the tissues after the invasion of the causes have further power of resistance. We need not commit ourselves to Metschnikoff's theories, ingenious and excellent as they appear to be. That the corpuscles of the blood and cells of the tissues have the power of counteracting organic mischief within the tissues no one can doubt who has studied the processes by which nature casts out that which is deleterious, or seals it up in cysts or by connective tissue cicatrization. All these, again, mean healthy nervous vascular, and, I would add, particularly lymphatic structures for the following reasons. When chemistry has helped us still further in understanding the products of micro-organic life, it will not unlikely be found that they are by no means stable compounds; that the tissues have the power of reducing them to simpler may be safely inferred, otherwise it is difficult to explain how recovery takes place in acute and chronic infectious diseases. These products are carried by the blood and lymphatic system to the various organs of secretion and excretion, but it is not unnatural to assume that they may to a certain extent be split up into simpler compounds or elements within the system. If we think how little is required to raise the temperature by injections of tuberculin—a product of bacillary growth—we are almost forced to such a conclusion, otherwise it is difficult to see how life could be preserved so long in chronic tuberculosis.

HOW THE CAUSES ACT.

Beyond mechanical effects, comparatively little was known until very recently of the manner in which these causes acted. Doubtless many of the organic forms act by mechanical irritation, but they are most injurious in all probability from the products they produce. To learn that bacteria could produce nitrogenous waste products or poisons was the first step in advance. Panum is quoted by Brieger, our greatest authority, as being the first to isolate putrid poisons or ptomaines. Many others have since been discovered, but the works of Koch, Loeffler, Roux, Yersin, Hanken and Fraenkel are all specially interesting to us, inasmuch as they deal with the products of organisms associated with the production of specific disease. We cannot, however, overestimate the facts brought out by Loeffler, Roux and Yersin by demonstrating that typical symptoms, say of diphtheritic paralysis or

death, can be produced by the introduction of these toxic agents without the introduction of the organisms which produced them.

CLASSIFICATION OF DISEASE.

The present classification of disease in our text-books is by no means satisfactory, and Mr. Lennox Browne, in an able paper read in this Association, called attention some years ago to this fact. Many difficulties exist in classifying disease owing to the imperfect state of our knowledge, and all attempts have to a large extent failed, whether based upon anatomical, physiological, or pathological grounds. If we attempt to classify them according to the region in which they are situated, it means repetition, and hence we have such numerous terms for catarrh, as rhinitis, naso-pharyngitis, pharyngitis, and laryngitis. We have, further, to write special chapters upon the nervous, muscular, and other systems. In consequence of the confusion a large portion of the chapters in our text-books have headings which indicate symptoms merely, such as catarrh, rhinitis, tonsillitis, abscess, epistaxis, etc. A glance, however, at special works—say, that by Dr. Whistler on syphilis—or at the chapters in any of the text-books upon tuberculosis or malignant disease, show how most of these disappear when we start with a distinct or specific cause. It is then an easy matter to trace the steps of the disease in definite order and sequence. When we know more about etiology it is not unlikely the classification of disease will be made upon this basis, and the clinical evidences described under the headings of most of the chapters in our text-books will simply appear as the evidence or symptoms, or sequelæ.

THE EFFECT OF THE STUDY OF ETIOLOGY UPON TREATMENT.

The study of etiology promises to be particularly valuable in the way of treatment. It has emphasized all that has hitherto been written upon the question of hygiene, and the prevention of disease has been made easier by accurate diagnosis. At the last meeting of the British Medical Association at Newcastle, I pointed out the necessity for laboratories in connection with each sanitary centre where practitioners might have the benefit of a diagnosis in the earliest stages of disease, such as diphtheria. It is not to be expected that every practitioner can have the necessary apparatus for diagnosis in doubtful cases. Although the principle of inoculation remained for long one empirical fact, the experiments of Pasteur, and the researches of Koch, Hanken and others would promise something more in the prophylactic treatment of disease. Whether the inoculation of the products of micro-organisms is destined to be of great use in the prevention of specific affections remains yet to be seen. Metschnikoff's experiments would seem to throw a considerable amount of light upon what has hitherto been a great mystery, viz., by what means the tissues are protected from a second attack in constitutional fevers; and Pasteur, Koch, Liebreich and Klebs have tried to modify the virulence of the poison even after the person has been infected by the injection of certain products evolved in the life-history of particular organisms. Doubtless, although much was expected, little has been done in this direction as yet. All these, however, indicate how much is being done by our sanitary officers and experimenters in the prevention of disease.

The theory of the parasitic cause of disease naturally suggested attempts to administer agents which would destroy these active virulent causes. While it is easy to find antiseptic agents to destroy these organisms before entering into the tissues, as demonstrated in the brilliant results of antiseptic surgery, their destruction within the host is a different matter. Destruction of the parasite, as a rule, involves destruction of the individual cells of the host. In diseases of the upper respiratory tract, therefore, we have to classify all infective diseases which come in two great groups: firstly, those in which we can directly apply antiseptics, say on the surface of the membranes, or within the accessory sinuses; and secondly, those in which the causes have passed into the tissues and are beyond all hope of local treatment. In some cases, of course, both conditions may be present, and the surgeon may find it convenient to remove a local disease where a constitutional is present. In the consideration of the treatment of the first class there are still numerous fields for research open to us. For example, the best antiseptics to use in this connection. Three factors at least have to be taken into consideration in the application of a germicide: firstly, its antiseptic power; secondly, the rapidity of its action; and thirdly, how long this action continues.

It will be found that certain organisms are more readily attacked by a particular germicide than others, and consequently we have to search for the best antiseptic for the production of a particular germ. In practice, however, we must seek for some general antiseptic, because, as I have shown, more than one organism may be at work, as can be seen from the drawings here produced; these are from a case of diphtheria, and the first two drawings show a large number of round cell organisms, which were found to be capable of producing suppuration after cultivation and injection, and in all probability complicated the local conditions in the throat. The other drawing shows that we have to deal with bacillary forms as well. In all such experiments it must be remembered that the results obtained by antiseptics outside the body are quite different from those got when applied to the same organisms within the tissues.

Both from the experimental and clinical points of view there can be no doubt that bichloride of mercury, even in dilution to the extent of one in five thousand, is the most active in power, rapidity, and duration of

time. Carbolic acid, from its many good qualities, may be classed next, and particularly on account of the fact that it is less poisonous to the patient where we have a danger of absorption. Boracic acid is not only safe, but also a very efficient antiseptic, especially where there is danger of absorption. Listerine acts with great rapidity; and thymol even in the dilution of one to fifteen hundred may also be depended upon as an efficient germicide. The action of the antiseptic varies according to its method of administration, and so we may require to select it in the fluid or dry states. In affections of the upper respiratory tract, therefore, when we are attacking this locally we may be called upon to apply a germicide for many reasons :—firstly, during or after operation to render the parts aseptic if possible; secondly, where the parts have become septic to cleanse after free drainage; but there is a third object to which I would give special attention, viz., where we wish to attack a local focus of inoculation, say, in the false membranes of diphtheria. Many agents may be used for this purpose, such as those mentioned above, and also the strong acids, but a great difficulty arises inasmuch as the crypts or cavities do not allow efficient action of the germicide. For some years past I have been in the habit, after explanation to the patient, of excising the tonsils in acute affections with the view of getting the agents properly applied. While I select the example of the tonsils, the same principle applies to the other parts of the upper respiratory tract, and it likewise applies to acute diseases of an infective nature, whether diphtheritic or otherwise. I have not always been able to carry out this plan, because of objections on the part of patients and medical attendants; but where the operation has been performed, and *where efficient nursing has been at my disposal* to see that the raw surfaces were carefully and frequently attended to, I have seen nothing to deter me from making still further experiments in this direction. Some here may not believe in these being local affections, but some local manifestations of a constitutional state. In any case the principle has this merit, that the agents can be efficiently applied, and I do not see how this can be done where crypts exist in the tonsil, into which our therapeutic agents cannot be carried. So far as our clinical observations have gone the membrane has been easily controlled upon the cut surface; there has been no elevation of temperature which one would expect if reinfection took place upon the cut surfaces, nor have there been any contra-indications from the study of the pulse, or the amount of albumen in the urine.

One of the residents in the Glasgow Belvidere Hospital, Dr. Watson, has been making observations upon this line of treatment in diphtheria at my suggestion. No place can be better calculated for the carrying out of such an experiment than the wards of a fever hospital. I have brought with me a preliminary note of the results, and, while his only amount to eleven cases, everything I have stated above has been confirmed, and only two patients out of the eleven have died, and in one of these tracheotomy had been performed. Excision of the tonsils has been recommended in the treatment of acute affections of the throat by Browne and others. If this be recommended, great

attention must afterwards be paid to the proper application of suitable antiseptics.

In the second class of disease, unfortunately, our treatment has not yet been very successful, and this remark specially applies to chronic cases, such as phthisis laryngea. It is hopeless in some cases to expect much good from the scraping out and medication of an inter-arytenoid membrane, and this is easily enough explained by the affection of other organs of the body at the same time. I have given six drawings in a case of phthisis laryngea where the inter-arytenoid membrane was scraped without any beneficial result, and this requires no explanation, because such a widespread affection could not be affected by local treatment. I should be sorry to leave the impression of anything discouraging to the enthusiastic work of Professors Herying and Krause. I have, like others, had good results from local curetting of the parts, just as surgeons have had excellent results from the destruction of disease in the tarsus and carpus in cases where other organs of the body were affected. We must not, however, be discouraged by the fact that constitutional agents have not yet been discovered to combat these affections, because, after all, it is precisely in this that we have the best recent results in surgery. For example, the most serious complications to life have been combated in the brilliant results obtained in the treatment of acute infective diseases of the brain and spinal cord, and we rejoice to learn from time to time of the splendid records of Macewen, Horsley, Lane, and others, in this department. In the same way no one can estimate the amount of deafness which has been obviated by the early removal of hypertrophied and lymphoid structures in the post-nasal adenoid growths, tonsils, etc.; or the alleviation of catarrhal conditions of the respiratory passage, due to old-standing mischief in the accessory cavities, such as the maxillary, frontal, and sphenoidal sinuses.

While we may consider the present to be a surgical era in treatment, etiology has more than ever shown the necessity for careful therapeutic investigations, whether in local or constitutional effects. The three great principles taught from a study of etiology in the treatment of affections in this as in any other part of the body, are, firstly, to remove the cause—this includes all our surgical work; secondly, if we cannot do this, to aid nature in so doing; and, thirdly, to palliate in either of these two conditions. That advances have already been made is seen in the clinics in the various hospitals in this and other countries. Everywhere scepticism exists about the efficacy of old and empirical treatment. Thanks to the efforts of many workers in the study of nasal affections, the application of pigments in pharyngitis sicca has become rare, and this is just as it should be, because our classification into astringents, alteratives, stimulants, and so forth was made when our knowledge of etiology and pathology was very imperfect.

Satisfactory as our results have been, we must never forget that the great majority of workers are at present dealing with the sequelæ of disease. This could not be better shown than by the study of the history of the cases in the recent great work of Professor Macewen on infective diseases of the brain and spinal cord, where we have frequent

evidence of old-standing disease in the ear or throat. The same thing prevails in our every-day practice with catarrhs—even the majority of our acute inflammations are exaggerations of slumbering sub-acute or chronic conditions, probably the result of disease as far back as childhood. However brilliant such results may be, treatment of the remote pathological conditions should not satisfy us, and hence the removal of tonsils without post-nasal adenoids, or this again without the hypertrophies which produce them, must tend to recurrence and perpetuation in a considerable number of cases. In the nasal and buccal cavities, where so much can be hidden in crypts, depressions, and accessory sinuses, we cannot be too careful in our search for pathological lesions; but more than this, our experience teaches us that a large proportion of the mischief with which we have to deal could be prevented by careful nursing and treatment of those suffering from constitutional affections of childhood or adult life. Whether we are in future to have the benefit of constitutional agents capable of destroying these specific organisms or not, no one can say. The history of surgery in the past reveals the only means of treatment open to us at present. It must, however, be evident, with the sanitary officer on the one hand, improvements in early methods of diagnosis, followed by prompt and thorough treatment on the other, many sequelæ of the most disastrous nature will be obviated in future. The solution to the difficulty unmistakably lies in the study of etiology, and it is for that reason I have chosen this subject for consideration to-day.

In every department we see energetic workers; anatomy, microscopic and macroscopic, is being pursued with an interest and attention never excelled in the history of the past. Physiology has done much for us of late, as we can see from the works of Aschenbrandt, Fick, Block and Macdonald. Experimental physiology has also come to our aid in controlling the observations at the bedside. Although we may have a difficulty in reconciling different opinions, and without committing ourselves to any special view, we record with extreme satisfaction that our knowledge of nervous affections has been greatly enhanced by the works of Krause, Masini, Horsley and Semon. Excellent work on all hands has been done in the fields of pathology and clinical research, and these must be still further enriched by observation, although the study of medicine could never have rested on a satisfactory basis had we had nothing but clinical observation to record. One of the greatest (if not the greatest) triumphs of physical science was the prediction of the existence of a certain planet by the disturbances caused in the movements of other celestial bodies, and its discovery tested the accuracy of previous observations. So in the study of clinical medicine, by the disturbances in the functions we can often infer the existence and, to an extent, the nature of a cause. The greater in number and more accurate these observations are, the surer are we to discover the cause, but after its discovery the facts relating to cause and effect will be explained and harmonized only in as far as they have been accurately recorded.

LIST

OF THE PRINCIPAL

MICRO-ORGANISMS FOUND IN THE NOSE AND THROAT.

The following micro-organisms were demonstrated by means of photographs and microscopic drawings. They have all been found in the upper respiratory tract, and include the majority of the known organisms of interest there. The pathogenic are of first interest to us, but parasitic and saprophytic forms are included, because a knowledge of them is necessary for purposes of identification. Moreover, the exact pathogenic qualities of these are not yet known, and the life products of all, when given in large enough quantities and under favourable conditions, may be capable of producing disease.

A.—PARASITIC OR SAPROPHYTIC FORMS.

Mouth Bacteria—non-cultivable.

Scraping from tooth, showing round, spiral, rod shapes.
Spirillum sputigenum—almost pure cultivation from human mouth.
Spirochætæ dentium, from human mouth.
Leptothrix buccalis—various forms.
„ innominata—Miller's classification.
Bacillus buccalis maximus „ „
„ „ „ „ „ (high power).
Iodococcus vaginatus „ „

Mouth Bacteria—cultivable.

Bacillary forms, various (health), showing spore formation.
Cocci forms, various—cultivations on agar and gelatine.
Ascoccus buccalis—*Miller.*

Fermentation Bacteria—zymogenic.

Bacillus acid lactici.

Colour-producing—chromogenic.

Cultures of organisms producing red-coloured matter in tubes.
„ „ „ green „ „ „
„ „ „ yellow „ „ „

Not classified above.

Micrococcus prodigiosus.
Sarcinæ ventriculæ.
Bacterium termo?
Bacillus subtilis.

Fungi.

Spores from upper air passages (aspergillus).
Aspergillus glaucus.
Penicillium glaucum.
Mucor mucedo.
Mucor racemosus.

B.—Pathogenic Forms in Upper Air Passages.

Cultivable for most part.

From sputum —Bacillus crassus sputigenum.—*Kreibohm.*
Micrococcus tetragenus.—*Koch, Gaffky.*
Inflammation —Micrococci in tracheal membrane.
Suppuration —Staphylococcus pyogenes aureus.—*Ogston.*
„ „ albus.
„ „ citreus.
Streptococcus pyogenes.—*Ogston.*
Varieties mic. pyo. tenuis, etc.—*Rosenbach.*
Bacillus pyocyaneus.—*Gerrard.*
„ pyogenes fœtidus.—*Passet.*
Gonorrhœa —Micrococci gonorrhœæ.—*Neisser.*
Erysipelas —Streptococcus erysipelatosus.—*Fehleisen.*
Pharyngo-Mycosis—Bacillus fasciculatus, round and other forms.
Tubercle —Bacillus tuberculosis in sputum.—*Koch.*
„ „ tissues of larynx.
„ „ lungs.
„ „ liver.
Bacilli of decomposition in sputum.
Micrococcus tetragenus „
Leprosy —Bacillus in tissues.—*Hansen.*
Syphilis —Bacillus.—*Lustgarten.*
Rhinoscleroma—Bacillus.—*Frisch.*
„ in capsules.
Actinomycosis—Actinomyces in tongue.
Diphtheria —Bacillus (false membrane).—*Klebs-Loeffler*
Bacilli cultivations.
Micrococci in false membranes.
„ and bacilli, impure cultivations.
Pneumoniæ —Pneumo-bacillus (pneumococcus).—*Friedlander.*
„ in pus.—*Friedlander.*
„ „ —*Fraenkel.*
„ in lungs.—*Fraenkel.*
Typhoid —Bacillus.—*Eberth-Gaffky.*
Malignant Disease—Psorosperms.

C.—Entrance of Micro-Organisms to Tissues.

1. Mycelial spores passing through epithelium in living tissues.
2. Development within the tissues.

The investigator may also meet the following by contamination, etc.: Achorion schonleinii, tricophyton tonsurans, microsporon furfur, etc. Biondi's[1] list includes bacillus salivarius septicus, coccus salivarius septicus, micrococcus tetragenus, streptococcus septo-pyæmicus, staphylococcus salivarius pyogenes. Kriebohm[2] mentions two non-cultivable forms found in mouth. These have not been included in the above list as many of them are difficult to identify, and may appear under other names by different observers.

[1] "Breslauer Aertzliche Zeitsch.," Sept., 1889, No. 18. [2] Flugge, p. 319.

Sir PHILIP C. SMYLY thanked the President for his very interesting and carefully prepared address. He thought nothing could speak more strongly for the uses and advantages such an association as theirs conferred upon the profession, as a whole, than having such a President as Dr. Macintyre in the chair.

The vote of thanks was passed by acclamation.

SPECIAL DISCUSSION.

The Pathological and Clinical Features of Atrophic Rhinitis.

Mr. WYATT WINGRAVE opened the debate in the following communication:—At a recent meeting of this Association it was my privilege to demonstrate some histological investigations concerning the disease commonly known as "atrophic rhinitis." Through the courtesy of your Council I am now enabled to amplify that communication by dealing with its clinical and pathological aspects.

The selection of a disease with whose existence we are only too familiar, perhaps, demands some justification or apology. As I cannot justify its choice by presenting you with any brilliantly novel observations or discoveries, I can simply plead the importance of the subject, and express a hope that by your discussion more light may be thrown upon a disease regarding which at present our literature reveals an apparently hopeless tangle of conflicting views and contradictory interpretations.

It is not my intention to trouble you with an exhaustive chronological or critical review of all that has been written upon the disease, but to give you the results of a personal investigation into upwards of sixty cases, many of which, through the courtesy of my colleagues, I have been able to examine systematically and watch during the last year or two. Although sixty may seem a small number, they represent a careful selection, as I have rigidly excluded all those which appeared of a doubtful nature.

Definition.—Without prejudging the appropriateness of the name, atrophic rhinitis may be defined as a progressive and persistent form of dry rhinitis, characterized by a shrinking of the mucous membrane, which tends to invade contiguous chambers, and is accompanied by the formation of crusts with more or less fœtor of a special character.

Nomenclature.—Ozæna, dry catarrh, fœtid coryza, cirrhotic rhinitis, and punaisie represent only a few of the names which are in use, and more or less indicate the nature of the disease and the ingenuity of the writer. Although they are all more or less defective and misleading, instead of busying ourselves in coining new names, we can, I think, more profitably devote our attention to a consideration of the pathological and clinical details, so that certain features may be selected as characteristics and constants of the disease. Until then it may perhaps be more expedient to provisionally retain the term "atrophic rhinitis."

Histological Features.—The difficulty of obtaining material for microscopical examination is obvious, for few cases are found in the *post-mortem* rooms of our special department. My histological examinations have, therefore, been confined to portions of tissue removed from living

patients, by means of the snare, in a large proportion of the cases seen. I will briefly summarize and discuss the most prominent and constant features which were present.

They may be conveniently arranged under the following headings :—

1. Transformation of the columnar ciliated and special olfactory cells into stratified squamous epithelium.
2. Disappearance of the hyaloid basement membrane.
3. The presence of special hyaloid bodies and pigment masses.
4. Changes in the glands.
5. Changes in the lymphoid tissue and blood-vessels.
6. Changes in the bone.

All these conditions were present in degrees proportional to the intensity of the disease in every well-marked case ; I shall, therefore, consider them as the histological constants of atrophic rhinitis. Although transformation of the surface epithelium and many of the other changes may occur *separately* in various diseased states of the nasal mucous membrane, *collectively* their significance is of the utmost weight in identifying the specific nature of the process.

It has been observed by Bosworth[1] that these epithelial cells may become active inflammatory corpuscles, but I have not found any evidence to justify such an assumption.

The disappearance of the hyaloid membrane is very constant and characteristic, for in other forms of rhinitis it generally remains intact.

Perhaps the most striking and interesting feature is the presence of hyaloid bodies, which increase in number with the duration and severity of the disease. They consist of small, refractive, rounded, homogeneous masses, imbedded for the most part in the interlobular tissues of the glands and in the adjacent lymphoid tissue, but are also seen amongst the surface stratified epithelium. In the early stages they exist as small spheroidal masses about one two-thousandth of an inch in diameter gradually increasing in size to about one eight-hundredth of an inch. At a later stage a complete change can be demonstrated—they seem to break up into minute refractile bodies, resembling spores imbedded in a transparent matrix.

In some places they are apparently encapsuled, whilst in others they are free. I have never satisfied myself of their nucleation, for whilst they readily take up rubin and orange they resist hæmatoxylene and other nuclear stains. The granular stage is well demonstrated by means of osmic acid and gentian violet.

What is their nature? Until consulting Burnett's "System of Diseases of the Ear, Nose and Throat," I was unable to find any reference to their existence. Under atrophic rhinitis, Fraenkel[2] describes homogeneous round and oval bodies, consisting of broken-down cells and nuclei, which he regards as the result of retrogade cell metamorphosis. These are doubtless similar to my hyaloid bodies, but I cannot agree with his interpretation, for they bear very little resemblance to broken-down cells,

[1] Bosworth: "Diseases of the Nose and Throat," vol. i., p. 166.
[2] Burnett's "System of Diseases of the Ear, Throat and Nose," vol. i., p. 675.

and I find no vestiges of nuclear particles. Stepanow[3] (Moscow) has described hyaloid bodies in polypi, rhinoseleroma, and adenoid growths, which he attributes to the action of bacilli, believing that their production is a process which presents too great a propagation of bacilli.

These bodies I have also seen, but they differ entirely from those of atrophic rhinitis, being concentrically laminated, staining differently, and are similar to the laminated corpuscles which occur pathologically in thyroid growths, and normally in thymus gland as Hassell's corpuscles.

Fat globules are also described by many writers, but these bodies are not fatty, since they do not give the characteristic reaction with osmic acid, and they are insoluble in ether. They are not composed of amyloid substance (lardacein), since they give negative results with methyl violet and similar stains. They are very suggestive (in their earlier stages) of myelin masses so often seen in preparations of nerve tissues after treatment with alcohol; but their presence in such large numbers, and the subsequent granular changes, sufficiently negatives this interpretation. One feature is, however, very remarkable and suggestive—viz., their strong resemblance in staining reaction to the substance which constitutes the hyaline basement membrane everywhere underlying the surface epithelium in the normal state, but which in this disease disappears.

With regard to their parasitic nature my investigations at present do not permit a decided expression of opinion, although several friends, whose biological experience is greater than mine, have expressed themselves in favour of that view.

Pigment masses are not constant in their appearance; they occur for the most part in irregularly-shaped clusters, sometimes enclosed in branched connective tissue cells, at others blocking the lumen of the capillaries, and distributed both superficially and deeply.

Changes in the Glands.—The gland changes vary in degree, from a simple cloudy swelling of the secretory cells, with blocking of the lumen, to a complete disorganization of the acini by ingrowth of small cell inflammatory tissue. The duct epithelium apparently resists these changes until very late, excepting in those instances in which the ducts were distended by plugs of laminated keratin masses. Most writers refer to these cell changes as being fatty in nature; whilst confirming this in a few instances, careful examination showed that mucoid and keratinoid degenerations occurred much more frequently. The plugging of the ducts bore a strong resemblance to the comedones of sebaceous glands.

Changes in the Lymphoid Tissue and Vessels.—In every specimen the lymphoid tissue gave distinct evidence of change. In early stages the corpuscles were numerically increased, whilst in later stages they diminished in numbers but increased in size with absorption of the reticulum—in fact, presenting the appearance of granulation tissue, such as occurs in lupus, and, like it, invading other structures and undergoing subsequent sclerosis.

The capillaries, which normally present long loops reaching to the hyaline membrane, became entirely obliterated. The cavernous spaces became less distended and finally atrophied, due to diminished blood

[3] JOURNAL OF LARYNGOLOGY, vol. v., p. 322.

supply, induced by a general interstitial fibrosis and in some instances a process of slow endarteritis obliterans in their afferent vessels. I could not observe any decided active changes in the arterial walls; they seemed to be undergoing a process of atrophic stenosis.

This vascular atrophy and perversion of gland function are greatly responsible for the altered secretions, but a most significant feature is the disappearance of the lymphoid tissue.

Changes in the Bones.—I have entirely failed to demonstrate any histological changes which might be considered specific. The walls of the bony cancelli in advanced cases were decidedly attenuated, even more so than what would be considered normal to the patient's age, and the osteoblasts were few and flattened. Osteoclastic absorption was well shown in early cases, but not excessively. When the disease occurs in early life it must obviously interfere with the proper growth of the turbinal bones; it is, therefore, not surprising to find them smaller than natural, but this diminution must not be attributed at any time to rarefying osteitis, nor must rarefying osteitis be considered necessary to atrophic rhinitis.

Too much stress has been laid upon the simple presence of osteoclasts as indicative of a particular morbid process. These periosteal and endosteal changes are simply part and parcel of a normal osteo-porosis or cancellation, a process essential to the development of these and other bones. It is only when the osteoclastic changes become excessive that they justify a morbid attribute.

Many writers explain the bone atrophy as the result of pressure from the drying crusts, like a collodion film, whilst it has been suggested by Zaufal[4] that it is the result of a congenital defect, and has an important causal relation to the disease in question.

Considering the nature of the changes occurring in the soft tissues, it would be surprising if the bones did not give indications of a diminished blood supply; but this atrophy presents the features of a passive rather than an active process, occasionally producing patches of bare bone.

Relation to Lupus.—Spencer Watson[5] has advanced the view that there is a very close analogy between atrophic rhinitis and lupus non exedens, and that they may both be due to a common bacillus. That they probably possess a few features in common may be correct, but the suggestion of a common origin in a particular bacillus requires some substantiation ere it can be accepted, even admitting that lupus has a specific organism. Atrophic rhinitis, like lupus, is undoubtedly a spreading disease—it may extend to all the accessory and adjacent cavities, it may even involve the larynx—but it has never crossed the muco-cutaneous boundary. It occurs, like lupus, chiefly in patients who are the subjects of a tuberculous or strumous taint, and it tends to persist, but not to kill. In its fundamental histological features—the presence of small cell tissue of a low type—it resembles lupus and tubercle, but it does not ulcerate spontaneously; its end is sclerosis.

Lupus has been described as an attenuated form of tuberculosis. Are we, then, to consider atrophic rhinitis an attenuated lupus? There is

[4] "Aerzte corresp. für Böhm," 1874, Nos. 23 and 24.

[5] Spencer Watson: "Diseases of the Nose," 1887, p. 85.

certainly a sufficient resemblance between these diseases, both histologically and clinically, to justify further investigation.

Rhinoscleroma.—Rhinoscleroma, albeit an extremely rare disease in this country, having some resemblance to atrophic rhinitis in its histology, demands a short notice. Its essential feature is the presence of slowly-growing small cell tissue, containing, according to Cornill,[6] small highly refractive hyaline bodies. It tends to spread in *all* directions, including skin, tongue and larynx, but does not ulcerate. In the hands of Frisch and Stepanow it has afforded positive results to cultivation and inoculation experiments.

Incidental Pathological Changes. — The most strikingly uniform incidental change observed was the disappearance of lymphoid structures. In fifty-six of sixty cases the faucial and pharyngeal tonsils had entirely disappeared, whilst in the remaining four they were very small. The lingual tonsils were equally diminutive, for in all well-marked cases the pharyngo-glossus was perfectly smooth. This shrinking and disappearance of lymphoid structures is, I venture to submit, a significant feature of the disease, and has something more than a mere coincidental relation to the intra-nasal changes.

In most cases the teeth were more or less decayed.

The thyroid gland could not be distinguished by palpation in twenty-eight cases, but in two instances it was distinctly enlarged and resilient.

Whilst conjunctival complications were not observed, non-suppurative middle-ear disease occurred in eight cases. (Wyss found ear trouble in forty-seven cases out of sixty.)

In ten instances bare bone was distinctly felt on probing the anterior ethmoidal cells.

Anæmia was well marked in twenty-seven cases.

Etiology and Pathology.—However interesting the local changes may be, the origin of atrophic rhinitis must not be considered solely upon evidence afforded by them; it is perhaps expedient, therefore, that I should first put before you the question—Is the disease, *atrophic rhinitis ab initio?*

It would be tedious to quote all the different views which have been advanced in answer to this question, but so many writers of eminence have expressed themselves in such definite terms that, by way of illustration, I must draw your attention to one of the most recent articles.

In Burnett's "System" J. N. Mackenzie[7] unhesitatingly answers this question by a negative. He considers that atrophic rhinitis "always appears as the sequel of a pre-existing catarrhal inflammation," and that the rapidity with which it sometimes passes from the hypertrophic to the atrophic form is, in all probability, proportional to the presence of some constitutional taint, such as syphilis.

Although we not infrequently may see a well-marked atrophic process at work in one nostril, coincidentally with distinct prominence of the turbinal in the other nostril, this does not necessarily imply that atrophic

[6] "Progrès Médical," 1883, p. 857.

[7] Burnett's "System of Diseases of the Ear, Nose, and Throat," vol. i., p. 672.

rhinitis is always preceded by true hypertrophic rhinitis. What we see in such a case is the early inflammatory thickening, which, here as elsewhere, is so frequently the preliminary thickening of a sclerotic process. There is a wide histological difference between this enlargement and that of cavernous or erectile hypertrophy, which John Mackenzie holds to be the constant and necessary antecedent to the atrophic changes. Most careful cross-examinations have only afforded me a preliminary history of nasal obstruction with profuse catarrh in three instances, and histologically I have entirely failed to trace the changes which Mackenzie describes as connecting degenerative cavernous dilation with the specific atrophic changes, and I cannot believe that atrophic rhinitis is the result of a badly-treated catarrh.

Of course there are other varieties of hypertrophic rhinitis, such as the mucoid, glandular, etc. But what is the usual termination of these conditions? The erectile form, if slight, usually subsides, but if severe and persistent, owing to actual atrophic mucoid degeneration of the muscular walls of the spaces, it develops into what I have described as turbinal varix,[8] and is eventually removed under the varying disguise of polypus or angio-myxoma. Should it be chiefly mucoid its localized exaggeration becomes an ordinary mucoid polypus; if glandular it becomes cystic. But I cannot understand how any ingenuity can trace any of these conditions, step by step, into the conditions which constitute atrophic rhinitis.

If this distension and subsequent sclerotic obliteration of the venous spaces is the *fons et origo* of the disease, how can the presence of atrophic rhinitis be accounted for in situations where no erectile tissue is even found? The disease is not confined to the turbinal bodies, but spreads to every adjacent structure excepting the skin.

Drake and others[9] have advanced the view that it arises as a chronic purulent inflammation of the accessory sinuses, whilst Gottstein holds that deficient development of the turbinal bodies is responsible, since it is followed by abnormal patency of the cavities.

Whilst admitting that a simply *dry* or pseudo-atrophic rhinitis may follow a catarrhal state, it must not be confused with this particular disease, and whether atrophic rhinitis is a specific disease *ab initio*, or is the result of a series of hypertrophic events, I leave for your discussion.

There can be but little doubt that constitutional influences are often important factors, although Bosworth denies any connection between this disease and tubercle or scrofula.[10]

In thirty-seven cases I obtained a definite family history of phthisis; one was attributed to small-pox, one to erysipelas, five were associated with acquired and inherited syphilis, whilst a large number gave a family history of suppurating glands in the neck, and personal history of persistent anæmia.

Alcoholism has been credited with a causal relation; this I cannot verify.

[8] JOURNAL OF LARYNGOLOGY, vol. vii., p. 177.
[9] Burnett's "System," vol. i., p. 677.
[10] "Diseases of the Nose and Throat," vol. i., p. 168.

Whether there is or is not a special diathesis, apart from tubercle or struma, I will not venture to advance.

I will now proceed to a clinical analysis of my sixty cases.

1. *Age of the patient when first seen.*

From ages	14 to 20 years	21
„ „	20 „ 30 „	23
„ „	30 „ 40 „	8
„ „	40 „ 50 „	5
„ „	50 „ 60 „	3

It will be seen that the majority of cases presented themselves between puberty and thirty, but these figures are, however, of much less importance than the following, which show, as far as I was able to gather with most careful questioning, the *age at which the disease was first noticed—i.e.:*

2. *The date of commencement.*

From	1 to 5 years	2
„	7 „ 9	4
„	12 „ 15 „	28
„	15 „ 30 „	19
„	30 „ 53 „	7

These figures indicate the age of puberty as being most frequently either the real commencement of the disease, or at all events the period at which it was first appreciated by the patient or her friends. These figures practically correspond with Greville Macdonald's,[11] who gives seventeen as the average age for the appearance of the disease.

3. *Sex of patient.*—There were forty-nine females and eleven males.

4. *Sexual functions.*—In females it was the exception to find them not suffering from leucorrhœa or amenorrhœa, and in every instance the nasal phenomena were intensified at the menstrual flow. In two cases the disease was actually dated with the menopause, whilst more than half the number associated the commencement of the trouble with the establishment of the catamenia.

5. *Family history and heredity.*—As previously mentioned, I obtained a definite history of consumption in thirty-seven cases, and of abscesses in the neck in eighteen. The evidence of a constitutional taint is therefore strong, although in eighteen cases I could get none at all.

Several cases bearing unmistakable local evidence of syphilis I excluded. In eight instances there was evidence of atrophic rhinitis in other members of the family, and three volunteered the information that their mothers suffered with the same complaint.

6. *Occupation.*—The employments were so varied that I need only remark that the greater number consisted of girls belonging to the hard-working classes, and were engaged in warehouses and shops under varying degrees of unhygienic surroundings; still, several belonged to the well-to-do middle class.

7. *Fœtor.*—With regard to fœtor, whilst in fifty-eight cases it was more or less obvious to the observer, in about half that number it was

[11] "Diseases of the Nose," p. 136. 1890.

appreciated by the patient. The intensity seemed to vary with the extent of the disease and the amount of crusts, but in those cases in which the accessory sinuses were involved it was always more persistent in spite of treatment. In those cases associated with bare bone I could not detect any difference in its nature. It was always worse during the menstrual flow.

With regard to its origin, I will ask your indulgence for a few remarks.

The mucous membrane of the nostrils is a transformed epidermal structure, derived originally from an involution of the buccal epiblast. Hence the surface epithelium (excepting the olfactory cells) and the glands originate in common with the epiderm and its appendages.

During atrophic rhinitis in the stratification of the surface epithelium we find a structural reversion to the primitive type, and in the gland epithelium we find the establishment of a perverted function—in other words, the nasal mucous membrane becomes converted into a cutaneous structure, with a corresponding change in secretion.

Cutaneous secretions vary in odour with their source and with the individual. Compare the characteristic smell of the feet with that of the axilla and the preputial glands. Even the ear is the seat of a similar fœtor due to intra-tympanic accumulation of epithelial masses and secretions (cholesteatomata).

The nasal glandular secretions are, with those of the cutaneous glands, equally liable to putrefactive decomposition; they all give rise to peculiar odours, and they are all exposed to the influence of the same micro-organisms. Bromidrosis and rhinal fœtor have a close kinship, and it is in this kinship that I venture to suggest is to be found an explanation for the peculiar odour in atrophic rhinitis.

8. *Olfaction.*—Complete loss of smell occurred in only thirty cases; in the remainder the sense varied in degree with the extent of the disease and the locality invaded. Anosmia in most instances was gradual in its onset, but in not a few it was one of the first symptoms, parosmia often preceding it.

9. *Nature of the Crusts.*—Microscopical examination of the crusts afforded but little evidence of value. Staphylococci and an occasional diplococcus and leptothrix were the most prominent bacteria. One point, however, I was fully satisfied upon—viz., that the discharge was not pus, for pus cells were rarely present, the organized cells being epithelial squames and some multi-nucleated lymphocytes.

Bosworth persistently applies the term "muco-purulent" to the crusts. This certainly requires justification, for the elements of pus are wanting, and there is no granulation surface for its production.

Chemically they contained mucin, keratin, a small proportion of serum, albumen, and a trace of sulphur.

10. *Supra-Nasal Pain.*—From the frequency of the occurrence of pain over the bridge of the nose and at the "back of the eyes," I am inclined to consider it an important diagnostic element, especially when observed late in the disease, and when the accessory sinuses are involved. It was present in thirty-eight cases.

11. *Disappearance of the Tonsils.*—As already mentioned, the faucial, pharyngeal, and lingual tonsils presented well-marked atrophy, a condition which (as far as I am aware) has not been recorded. This, I think, is an important point in diagnosis, and occurring with lymph atrophy in the nostrils may throw some light on the pathology of the disease. In fifty-six cases the tonsils had entirely disappeared.

12. *Thyroid Gland.*—With the exception of two cases, as far as I could judge by palpation, the thyroid showed distinct indications of atrophy. In those two exceptions it was very prominent and soft.

13. *Complexion.*—Statistics with regard to complexion, involving so many sources of error, can have but little value. Numerically the dark skins were in excess of the fair.

14. *Typical Facies.*—I observed twenty cases in which that which is usually accepted as the typical cast of features was present, viz., the tip-tilted and open nostrils, depressed and widened bridge, with general diminutiveness of the organ.

15. *Relation to Infantile Suppurative Rhinitis.*—Bearing in mind Bosworth's assertion[12] that atrophic rhinitis is a sequel to post-nasal troubles in infancy, I carefully cross-examined every case, with the view of establishing the truth or the reverse of this view. I only found four examples in which there was a reliable history of a prolonged nasal discharge in early life. The difficulties in obtaining reliable information of this nature I know are great, consequently the evidence must be accepted with reserve; still, whenever it was practicable, I made direct inquiries of the parents themselves.

With the exception of one case of measles and one of small-pox, I was much surprised to find no association with the specific fevers, neither could I find any evidence of association with suppurative ethmoid troubles.

Diagnosis.—The diagnosis from all other varieties of dry rhinitis will depend upon the presence of the foregoing conditions *collectively*. *Separately* they may be of little value, but it is upon a due consideration of *all* these changes that differentiation is based. Apart from the classical signs, I need only emphasize the *spreading* nature of the disease and the uniform disappearance of the tonsils.

This, gentlemen, is my case for atrophic rhinitis as a specific disease. I have endeavoured by an analysis of sixty cases to verify or to disprove many of the facts upon which specialist writers have based their views. With many of the facts I wish for a much closer acquaintance. Of novelty I may have afforded you little, either in substance or interpretation, therefore I trust that by your greater experience you will filter the good from the bad, and that the many deficiencies will be supplied by your discussion, thereby affording a sounder appreciation of not the least important of our nasal diseases.

Dr. WOAKES said he had listened with great interest and instruction to the excellent paper just read. There were some points which were brought out more clearly in it than had been apparent to him previously, possibly because he had not given so much attention to the microscopy of this particular phase of the disease as he had done to the hypertrophic

[12] Bosworth's "Diseases of the Nose and Throat," vol. i., p. 162.

form of it. On the subject of the particular name accorded to this disease by the writer of the paper he would offer a mild criticism, which, inasmuch as he had been adjudged a sinner in the matter of nomenclature, he might, perhaps, be allowed to do. The term "rhinitis," as applied to any localized affection of the nose, he objected to, as if it meant anything at all it denoted an inflammation of the entire nasal organ, being derived from the Greek ῥὶν, a nose. "Atrophic" rhinitis, therefore, means a wasting inflammation of the nose as a whole, a description which did not apply to the disease under discussion. It was clear, even from the paper just read, that the affection was a form of inflammation of the turbinal bones, more especially those of the ethmoid, the cells of which latter bone were, besides, almost invariably implicated in it. It was therefore an "ethmoiditis," and displayed all the changes in the arteries, blood sinuses, and bone seen in other forms of ethmoidal disease, as he had described them: only the myxomatous developments were lacking, the fibroid elements from which these were derived undergoing atrophy instead. From the point of view, therefore, of securing by means of its nomenclature a definite description of the disease, he thought the term "atrophic ethmoiditis" distinctly preferable. He would abjure the term "rhinitis" altogether, as conveying no idea of the particular locality of the nasal organ affected. While these were his views, he was prepared to admit they were all a good deal mixed on the subject of the nomenclature of nasal disease, and before attempting definite conclusions it might be well to wait awhile, and let their ideas simmer down.

As regards the origin of the affection, he was disposed to agree with the author quoted in the paper (J. N. Mackenzie), who regarded it as the outcome of a pre-existing hypertrophic inflammation. He had noticed a fact which had a suggestive bearing on this question. He had occasionally been consulted respecting children on whom he had operated for post-nasal growths, several years after the operation, because they had again become affected in the nose. This was not due to a recurrence of the growths, but to a hypertrophic inflammation of the middle spongy bones, associated with stuffiness, and with profuse and slightly offensive discharge. He regarded this condition, occurring under the circumstances mentioned, as a later manifestation of the same diathetic state as had in infancy induced the growths.

Granted such a diathesis, it was not unreasonable that it should evoke later manifestations, as the child grew up. It was well known to them all that even adults neglected in themselves what they called a "chronic cold," and in their children this neglect was general. So that it might easily be that adults who presented themselves with well-developed atrophic disease had long since passed through a hypertrophic stage. He had certainly seen a number of cases, chiefly in young adults, who when first examined presented what clinically was indistinguishable from hypertrophic disease, and who, while under observation, passed into the atrophic phase. He had shown one such patient among those illustrating the presence of necrosis, which he had exhibited that afternoon. The history of this case showed that the disease commenced in childhood.

There remained the question as to what constituted the determining

factor which should decide whether an inflammation of the ethmoid region of the nose should assume the hypertrophic or the atrophic phase?

When he published his first comments on the affection in 1887 (*vide* "Polypus, etc., associated with Ethmoiditis," p. 26, *et seq.*), he expressed the opinion that this determining element consisted in the possession on the part of the patient of an enthetic heredity—*i.e.*, in the atrophic or ozænoid cases. His subsequent experience tended to support this view, and one frequently saw in the teeth, eyes, and other regions confirmatory evidence to this effect.

He thought the description of the pathology of the disease given by the author unique, and its scientific value proportionately great, because it would now be possible with the microscope to accurately differentiate this disease from any other.

He doubted, however, whether this research would prove of much service, either therapeutically or clinically. They could not always scrape off pieces of mucous membrane, and treat such specimens microscopically, as, besides the special knowledge necessary, such a proceeding required considerable preparation, and the devotion to it of much time. Fortunately, the very distinctive clinical features of the disease made its diagnosis easy, apart from pathology.

Finally, he wished to insist on the great importance of recognizing the necrosis, the presence of which, in his opinion, constituted the element of persistency of the disease. He had been able to do this in every case but one which had come under his observation. He was glad to note that the writer of the paper had recognized this necrosis in considerably more than a third of his cases. The fact that it was often concealed within the ethmoid cells added, no doubt, to the difficulty of discovering it, but the necessity for doing so, with a view to its elimination, was essential to the radical cure of all ozænoid affections of the nose.

Mr. LODGE, junior, said he was personally indebted to the author for his very admirable paper, the anticipation of which was one of the principal reasons that had led him to come from Bradford. None of them could dispute the author's histological description, because the sections were there under the microscope for all to examine and control. The histological details might, he thought, be accepted as correct. For people in his own position, however, the great difficulty was as to treatment, and he would like to have an expression of opinion from the meeting as to the best method of treatment, especially as the author had omitted to deal with this important division of his subject at the length it deserved. He had had a case during the last six months, in which he had tried everything he knew of or that he had read about, but the patient did not get any better. He had tried touching the ozænic spots with trichloracetic acid, galvano-cautery, Gottstein's plugs, and the usual antiseptic douches. No bare bone, such as Dr. Woakes described, was found in any of his cases. It was a typical case of atrophic rhinitis. He had tried curetting because in the "Universal Medical Annual" of last year it was attributed to a microbial affection of the glandular elements. This certainly seemed to do more good than anything else. The author said that he had found no evidence of the pharyngeal tonsil remaining, but in

another case of his own one could see the remains of the pharyngeal tonsil; it was on the posterior wall with granulation tissue upon it, and he removed it by curetting with Gottstein's curette, apparently to the great benefit of the atrophic rhinitis.

Mr. MAYO COLLIER deprecated the discussion being allowed to wander so far from the avowed objects of the paper as to include "treatment." He said he came there, like many others, he presumed, with very little definite knowledge of this disease, and was most anxious to elicit some information as to the probable causation. He himself had seen and treated a large number of cases, but he did not profess to know anything particular about the disease, and still less the lines of guidance in the application of treatment.

In the first place, he wished to thank the author of the paper for a large amount of information, for many observed facts, which, no doubt, would be valuable, and would greatly assist in arriving at a solution of this puzzling and complicated subject. It had struck him, when listening to the very elaborate descriptions of the pathological changes in most of the tissues as far as the bones, that the author had omitted one point, and that a very essential one. The author had told them of the minute pathological changes in the epithelium, the basement membrane, the blood-vessels, sinuses and bones, but not one word had they heard as to the changes in the nerves. If they considered for one moment the functions of the lining membrane of the nose, they must at once admit that no other mucous membrane in the body had so much to do and was so continuously employed without any periods of rest or intermission. It comprised an apparatus for moistening and warming the inspired air, whatever might be the degree of cold or the percentage of moisture in the external atmosphere. Moreover, it filtered the inspired air and arrested and got rid of any injurious particles of dust or foreign matter.

To ensure this important function the mucous membrane must be in a high state of functional activity, both as to its secreting apparatus and, consequently, even more so as to its nervous mechanism. A slight degree of lessened nervous activity or any impairment of the reflex nerve centres would inevitably result in a break-down of the whole mechanism, and presumably lead to the state of things we are now discussing. They had been told on the unquestionable authority of the author of the paper that the changes in the epithelium, the changes in the lymphoid tissue, blood-vessels and bones—that all these changes were purely atrophic in character, apparently the result of a starved condition of the parts.

Moreover, we knew and had been reminded that afternoon that these changes were gradual changes, probably the growth of years, also that this atrophic process had a tendency to spread to the pharynx, tonsils, and larynx, and, moreover, might be unilateral or partial. They had been told that this disease was not associated, so far as anyone knew, with any general disease or diathesis, and so could not be reasonably held to be a local manifestation of any dyscrasia. The disease, moreover, was seldom or never cured. All these facts were consistent with the view that the initial disease was degeneration of the nerve ganglia

and nerve fibres supplying the parts, and, personally, he was not shaken in his opinion by being told that the disease affected only young persons and those up to a certain age, or attacked females in preference to males. All that was perfectly consistent with the theory that the cause was resident in the nerve ganglia.

Mr. LENNOX BROWNE, with all respect to Dr. Woakes, could not agree that his suggested alteration in nomenclature was an improvement; for the term "rhinitis" was generally supposed to be restricted to intra-nasal structures alone, and not to the nose as a whole, and seeing that rhinitis referred to an inflammation of other parts than the ethmoid bone, he could not allow that the term "ethmoiditis" was preferable. Mr. Mayo Collier had anticipated the speaker, in suggesting disorder of the sympathetic system as a primary etiological factor in the production of atrophic rhinitis, for as to diathesis the older writers spoke of struma and scrofula as constitutional factors; but, as had been advanced by the speaker in several editions of his book, these terms merely represented an inability to form healthy blood corpuscles—in other words, a feeble vaso-motor.

He had been struck by the original observation of Mr. Wingrave—the truth of which would be at once recognized—as to the disappearance of all tonsillar and glandular tissues in the disease under consideration. This, taken in connection with the circumstance that in a certain proportion of cases there was thyroid enlargement, materially strengthened the opinion that inherent vaso-motor debility was at the root of the disease. The experience of the writer of the paper, that there was a ponderable proportion of cases which occurred at the onset of menstruation, was not in accord with the speaker's, or at least the circumstance was misinterpreted; for, as a matter of fact, in the majority of the cases the menstrual epoch was inordinately delayed. As time went on the symptoms, especially that of fœtor, were intensified. A far larger number of cases occurred in early childhood than Mr. Wingrave's tables showed; and the discrepancy was probably due to the fact that the patients came earlier under notice in private practice, while those now under consideration were mostly hospital cases; the explanation of the discrepancy was that patients rarely presented themselves for treatment until they or their parents discovered that the stench attending their condition proved a hindrance to their gaining a livelihood.

With regard to the relation of atrophic to hypertrophic rhinitis, the speaker could not agree with the views of Dr. Woakes, that the former state *often* preceded the latter; and on this point Bosworth, who held that atrophic *never* followed hypertrophic changes, was probably as much in error as Morell Mackenzie and John Nolan Mackenzie, who, in agreement with Dr. Woakes, favoured the opposite sequence.

Mr. Lennox Browne could not agree with Dr. Woakes as to the probability of "a hypertrophic inflammation of the middle spongy bones, associated with stuffiness, and with profuse and slightly offensive discharge," occurring as a sequence of removal of adenoid growths. Nothing was more striking than the lifelong immunity from nasal and naso-pharyngeal disease after a successful performance of this operation,

and the circumstance narrated by Dr. Woakes as "occasional" was in his (the speaker's) opinion not only rare, but fortuitous.

It is quite true that there is a form of atrophic rhinitis which follows hypertrophic rhinitis, or may even co-exist with it, in an opposite nostril, but this is not the variety now under consideration. It is, however, absurd to speak of hypertrophic rhinitis in children under the age of puberty, for until that period, in point of fact, the turbinal bodies have not arrived at mature growth, and the theory of Gottstein, that arrested development originates the pathological changes, is the most reasonable yet offered. The speaker was of opinion that syphilis is only an exceptional factor in the causation of the disease.

Finally, Mr. Wingrave had alluded to the specific fevers as rare excitants of atrophic rhinitis. The speaker had seen one case in which after an attack of typhoid fever, marked improvement resulted, an exceptional experience not without parallel in connection with disease in other regions of the body.

Mr. MARSH said there appeared to be four theories advanced: (1) a special diathesis, (2) micro-organisms, (3) vaso-motor changes, and (4) necrosis. He did not believe there was a special diathesis. He had seen in a family of children, brought up under precisely similar conditions, one suffer and all the others escape. The *rôle* played by micro-organisms must be left undecided for the time being. It was not at present as probable a theory as the one promulgated by Mr. Mayo Collier. He had never detected necrosis in typical cases of atrophic rhinitis.

The PRESIDENT, expressing on behalf of the Society his thanks to Mr. Wyatt Wingrave for the careful paper which he had read, thought the discussion had been a fruitful one, inasmuch as they had heard a good deal about this important subject from the clinical and pathological standpoints. The results obtained in these two departments do not always coincide, but the inconsistencies are in all probability more apparent than real. Dr. Woakes had wisely said that to bring such ideas before us and let them simmer in our minds often proved of great benefit, and he had no doubt this would be the case with the present discussion. Mr. Wyatt Wingrave pointed out microscopical features, including the presence of certain bodies which might be parasitic in nature, but until Koch's postulates were fulfilled nothing definite could be said about them. He had no doubt that before many years passed Mr. Wingrave's paper would be looked back upon with great interest (probably historical interest), and would show that we were at the present time groping towards something at present little understood, but a subject upon which considerable light would in all probability soon be shed.

LIST OF FELLOWS.

ABERCROMBIE, P. H.	London.
ABBOT-ANDERSON, W. M.	London.
BAILEY, G. H.	London.
BARON, BARCLAY J.	Bristol.
BRONNER, ADOLPH	Bradford.
BROWNE, LENNOX	London.
BROWNE, WALTON	Belfast.
BARK, JOHN	Liverpool.
BALL, ED.	Southport.
COALL, R. R.	London.
COLLIER, MAYO	London.
COUSINS, WARD	Southsea.
COLLIER, W. C.	London.
DAVISON, JAMES	Bournemouth.
DRINKWATER, H.	Wrexham.
DUNCANSON, K.	Edinburgh.
ELLEGOOD, J. A.	Delaware.
ELLIS, RICHARD	Newcastle-on-Tyne.
EVANS, H. M.	London
EWING, F. C.	Philadelphia.
GRANT, J. DUNDAS	London.
GIBSON-BERKLEY, E. J.	London.
GAGE-BROWN, C. H.	London.
GRIFFITH, C. N.	Cheltenham.
HAYES, R. A.	London.
HERRICK, R. W.	Nottingham.
HODGKINSON, A.	Manchester.
HODSON, ALGERNON H.	Brighton.
HOLMES, GORDON	London.
HOLLOWAY, GEORGE	London.
HOUGHTON, M. J.	Weston-super-Mare.
HUNT, MIDDLEMASS	Liverpool.
HEWETSON, H. B.	Leeds.
HILLIS, JOHN	Dublin.
HORSLEY, R. E.	Edinburgh.
JONES, CARMALT	London.
JAMES, W. CULVER	London.
JAKINS, PERCY	London.
JENNINGS, J. E.	London.
JEWELL, COLEMAN	London.
LAW, EDWARD	London.
LODGE, SAMUEL	Bradford.

MACINTYRE, JOHN	Glasgow.
MACKENZIE, G. HUNTER	Edinburgh.
MARSH, FRANK	Birmingham.
MATHESON, FARQUHAR	London.
MILLIGAN, W.	Manchester.
MCGILLYCUDDY, W.	Bournemouth.
MUSSER, F. R.	Philadelphia.
ORWIN, ARTHUR	London.
ORR, J. R.	London.
PEGLER, L. H.	London.
REID, ST. GEORGE	Thornton Heath.
ROBERTSON, W.	Newcastle-on-Tyne.
ROOT, ARTHUR	United States, America.
REES, J. M.	London.
SANDFORD, ARTHUR W.	Cork.
SCATLIFFE, J. M. E.	Brighton.
SMYLY, SIR PHILIP C.	Dublin.
STEWART, DONALD	Nottingham.
STOKER, G.	London.
STONE, GEORGE	Liverpool.
SNOW, W. V.	Bournemouth.
SCHOLTZ, DR.	Cape of Good Hope.
SCOTT, J. H.	Dublin.
SCOTT, W. G.	New Zealand.
SMITH, F. A. A.	Cheltenham.
TAYLOR, S. JOHNSON	Norwich.
THOMPSON, BARCLAY	Melbourne.
TREVELYAN, E. F.	Leeds.
VINRACE, DENNIS	London.
VICARS, FREDERICK	London.
WARDEN, CHARLES	Birmingham.
WILKIN, G. C.	London.
WILSON, W. WRIGHT	Birmingham.
WINGRAVE, WYATT	London.
WHAITE, DU BEDAT J. H.	South Croydon.
WALKER, C. R.	London.
WHISTLER, W. MCNEIL	London.
WILLIAMS, P. T. WATSON	Bristol.
WOLFENDEN, R. N.	London.
WOAKES, ED.	London.
WAGGETT, E. B.	London.
WOODS, J. F.	New York.

HONORARY FELLOWS.

BOSWORTH, FRANCKE H.	New York.
COHEN, SOLIS	Philadelphia, U.S.A.
FAUVEL, CHARLES	Paris.
MASSEI, PROF.	Naples.
SCHROETTER, PROF. VON	Vienna.

INDEX OF SUBJECTS..

PAGE

Ethmoiditis, Necrosing 43
,, Suppurative 29
Fibro-Lipoma of Nose and Forehead 50
Larynx, Stenosis of 10
,, Tuberculosis of 24
,, Submucous Hæmorrhage 40
,, Foreign Body 47
,, Chronic Disease of 43
,, Pachydermia of 41
Lupus of Palate, Nose, and Throat 7
,, of Skin, Larynx, &c., with Phthisis 27
Micro-Organisms found in Nose and Throat 64
Naso-Pharyngeal Fibroma... 15
Œsophagus, Pseudo-Stricture of 50
Papillomata of Larynx 31
,, of Turbinal 13
Paralysis of Recurrent Laryngeal Nerve... 34
Paroxysmal Sneezing 45
Pharyngo-Mycosis 15
Post-Nasal Fibroma 52
Presidential Address 52
Rhinitis, Atrophic and Hypertrophic 16, 66
Thyroid Cartilages, Fracture of 14
Tonsils, Malignant Growths of 36, 37, 39

INDEX OF AUTHORS.

PAGE

BROWNE, LENNOX 7, 45

COLLIER, MAYO 50

GRANT, DUNDAS 15, 40

MACINTYRE, J. 31, 34, 36, 37, 52

MARSH, F. 47

MILLIGAN 41

ROBERTSON, W. 15

SANDFORD, ARTHUR W. 13, 14

SMYLY, Sir PHILIP C. 49

STOKER 52

WHISTLER 10, 24, 43

WINGRAVE, WYATT 15, 16, 29, 66

WOAKES, ED. 11, 43

WOLFENDEN 27, 39

Revolution in Iron Administration.

A HIGHLY PALATABLE PREPARATION OF IRON CHLORIDE.

THE Tincture of Chloride of Iron has long been recognised as the most efficient of iron preparations; the objections to its continued administration, its highly astringent taste, its corrosive action on the teeth and constipating action have, however, been hitherto insurmountable.

We have succeeded in preparing an entirely palatable syrup of officinal Tincture Iron Chloride, combining all its virtues with none of its drawbacks. It is prepared after the formula of Dr. G. W. WELD, and is entitled:

WELD'S
SYRUP OF IRON CHLORIDE.

(P., D. & Co.'s).

We earnestly recommend its trial to all the Profession, believing it to be the most acceptable preparation of Iron ever devised. Free samples will be sent, on receipt of request, to physicians.

THE "LANCET," London, Saturday, July 23rd, 1892.

SYRUP CHLORIDE OF IRON (WELD'S). (PARKE, DAVIS & Co.)

EACH tablespoonful of this preparation is said to be equivalent to twenty drops of the official tinctura ferri perchloridi, and our analysis practically confirms this statement. It is acid to test paper, gives a blue precipitate with prussiate of potash, increased on the addition of hydrochloric acid; no colouration with sulphocyanide of potassium until similarly treated, and no precipitate with ammonium hydrate. Alkaline copper solution is rapidly reduced. These results contribute to show that the preparation consists of a carefully made combination of syrup with perchloride of iron. Although it is characterised by a sweetish taste, it has not the marked action on the teeth which forms a drawback to the general administration of ordinary compounds of iron. In short, it would seem to possess all the advantages of an efficient iron salt.

"BRITISH MEDICAL JOURNAL," London, October 8th, 1892.

IMPROVED SYRUP OF CHLORIDE OF IRON.

THE Perchloride of Iron is probably the most frequently prescribed form of iron. The value of this salt as a hæmatinic is well known. The official solutions, the tincture and liquor have the disadvantage of being very acid—free hydrochloric acid being present—they are destructive to the teeth, and very astringent. We have examined a sample of "Weld's Syrup of Chloride of Iron," prepared by Messrs. Parke, Davis & Co., Manufacturing Chemists, and find that these objectionable characters are absent. The preparation is a solution of perchloride of iron with sugar and flavouring matter, it has only a very faint acid reaction, and is not astringent. This syrup will recommend itself to the prescriber who desires to administer the perchloride of iron in a palatable and non-astringent form.

PARKE, DAVIS & CO.,

451, Oxford Street, and 21, North Audley Street, Grosvenor Square, W.

THE

REGULATING INHALER

Is approved by the Highest Authorities as possessing the essentials for

SAFE ADMINISTRATION OF ANÆSTHETICS.

A Month's Trial invited Free of Cost.

The employment of the Regulating Inhaler has shown that Chloroform, **precisely diluted with air,** is the best anæsthetic in every branch of surgery, and the easiest managed. In the adult the blood completes its circuit about five times in four minutes. If during its first complete circuit air charged with ½ per cent. of Chloroform vapour is inspired, the second with 1 per cent., the third with 2 per cent., the fourth with 3 per cent., and, if necessary, the fifth with 4 per cent. of chloroform vapour, nothing but true and harmless anæsthesia is gradually produced, and before consciousness is entirely lost. Anæsthesia thus induced is suitable alike for every age and condition of man.

It has been pointed out by Dr. A. E. SANSOM and others that the dangers of chloroform reside in large doses, and especially sudden large doses, which can easily be prevented when chloroform is under perfect control of the administrator.

An illustrated description of the improved Regulating Inhaler, with full and simple directions for its use will be sent post free on application to

KROHNE & SESEMANN,

8, DUKE STREET, MANCHESTER SQUARE, LONDON, W.

BOOK OF CLINICAL DIAGRAMS.

This is a reduced copy of a leaf, containing **MOUTH** and **FAUCES,** in front and behind: **LARYNX** from above. Each leaf is printed in red, gummed at back, and perforated for dividing. Particularly adapted for marking the diseased parts at every stage in **DIPHTHERIA, GRANULAR PHARYNGITIS, LARYNGITIS, TONSILLITIS, &c., &c.**

[*Entered at Stationers' Hall.*]

"Cannot fail to be of great use as accessories to the ordinary clinical note records. We can highly recommend them for the purpose for which they are intended."—*The Journal of Laryngology.*

Fifty Leaves. Post Free, 1s. 4d.

J. T. BALCOMB,

23, Southampton Buildings, London, W.C.